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MENTAL
CULTIVATION & EXCITEMENT

BRIGHAM.

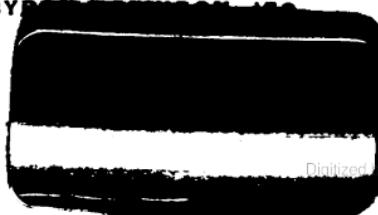
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**INFLUENCE
OF
MENTAL CULTIVATION
AND
MENTAL EXCITEMENT.**

REMARKS
ON THE INFLUENCE
OF
MENTAL CULTIVATION
AND
MENTAL EXCITEMENT
UPON HEALTH.

BY AMARIAH BRIGHAM, M. D.,
" SUPERINTENDENT AND PHYSICIAN OF THE STATE LUNATIC
ASYLUM, UTICA, N. Y.

Is not that the best education which gives to the mind and to the body
all the force, all the beauty, and all the perfection of which they are
capable ?

PLATO.

S'il est possible de perfectionner l'espece humaine, c'est dans la med-
icine qu'il faut en chercher les moyens.

DESCARTES.

THIRD EDITION.

- PHILADELPHIA :
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P R E F A C E

TO THE THIRD EDITION.

THE second edition of this work was disposed of several years since, and the author has frequently been called upon to publish a third, but owing to various causes he has hitherto neglected to do so.

In the mean time the work has been re-published in Glasgow, Edinburgh and London. To the edition published in Glasgow, Dr. Macnish, author of the "Anatomy of Drunkenness," "Philosophy of Sleep," &c., added an Introduction and many valuable Notes; and to the Edinburgh edition, James Simpson, Esq., Advocate, author of the

A*

“Necessity of Popular Education” and other works, added a Preface.

These improvements of the work are printed in the present edition, and the author has also made some additions, and carefully examined and revised the whole.

A. B.

N. Y. State Lunatic Asylum,
Dec. 1st., 1844.

P R E F A C E

THE favour with which the first edition of this work was received by the public, has been extremely gratifying to the author, not only by confirming his belief of the importance of the truths it contains, but by giving promise that they will be regarded, in the education of the youth of this country.

The inutility, and even the danger of very early attempts to cultivate the minds of children to a high degree, are beginning to be acknowledged, not only in this country, but also in England. An article in a recent number of the *Christian Observer*,

denounces in strong terms this dangerous practice ; and from various parts of our own country, I have been assured that experience has convinced many of the most intelligent and reflecting people, that it has been prosecuted to an injurious extent.

Public attention is now awakened to the importance of manual labour and exercise for scholars, in high schools and colleges. I rejoice at this ; but I still believe there is far more injury caused by too much *mental labour* required of children, when young, and by efforts to suppress their natural gaiety and love of amusements, than by neglect of exercise in after life. This is more particularly true as regards females.

The author has endeavoured to improve the present edition of this work by the correction of some verbal errors, and the addition of some new matter, particularly upon the influence of mental excitement in producing diseases of the heart ; upon *self-education*, and upon the *Sunday Schools* of this country.

He would again express the hope that his coun-

trymen, and particularly those who have the care of youth, would give more attention than they have hitherto, to the study of anatomy and physiology ; —sciences which he regards as of the utmost value to mankind, and which ought to be understood by every individual.

Harford, Ct. June 15th, 1833.

P R E F A C E

TO THE FIRST EDITION.

THE object of this work is to awaken public attention to the importance of making some modification in the method of educating children, which now prevails in this country. It is intended to show the necessity of giving more attention to the health and growth of the body, and less to the cultivation of the mind, especially in early life, than is now given; to teach that man, at every period of his existence, should be considered both as a spiritual and material being—as influenced both by physical and moral causes, and that therefore all plans for his improvement should be formed, not from a partial view of his nature; but from

a knowledge of his moral, intellectual, and physical powers, and of their development.

The importance of Physical Education, or the perfect development of the organs of the body, appears in modern times to be nearly forgotten. This forgetfulness has, no doubt, been occasioned by modern discoveries, inventions and improvements in the mechanic arts, which have rendered the employment of the physical strength of man less necessary than it was in past ages, and produced a general conviction that “knowledge *alone* is power.” The invention of gun-powder, in particular, has contributed very greatly to this neglect of physical education. So little regard, however, is now paid to this subject, that the connexion between the mind and body is by many entirely overlooked, and the necessity of well-developed organs for the manifestation of good mental powers, seems to be generally unknown. But, as exclaimed the eloquent Dupaty, on seeing the magnificent Anatomical Museum at Florence, “Philosophy has been in the wrong, not to descend more deeply into physical man; there it is that the moral man lies concealed.”

The people of the United States ought to become the most vigorous and powerful race of human beings, both in mind and body, that the world has ever known. Living in a climate which permits the fullest development of all the powers of human nature—enjoying entire freedom—possessing an abundant supply of the best nutriment, and of every thing necessary to promote the increase and healthy action of their physical powers,—exempt from those influences which tend to repress the mental and physical improvement of the people of most other countries, they certainly ought to reach the highest perfection of which humanity is capable. But to effect this, all that belongs to human nature should be regarded in education; the whole man should be improved. And not only should all his powers be developed, but they should be developed harmoniously, and at the proper time.

An improvement in female education has become very necessary in this country. It is lamentable, and in fact alarming, to find that the females of the United States, especially those in cities, and those belonging to the most wealthy class, are in

general more delicate and feeble than those in several countries of Europe. From my own observation, I am confident that a far greater proportion of the females seen in the cities of this country, are pale, slender, and apparently unhealthy, than of those seen in the large towns of England and France. The truth of this remark is abundantly confirmed by our own and foreign travellers. But there is no other country where females generally receive so early and so much intellectual culture, and where so little attention is paid to their physical education. Unless there is a reform in this respect, the general feebleness of the females in this country will be increased. Besides, there is danger of ultimately regarding extreme delicacy as requisite to beauty, and thus a false and most dangerous error may be encouraged. No people will long hold a high rank among the nations of the earth, where such an opinion extensively prevails, and where females are generally feeble.

It is not, however, the object of this publication to discountenance, in the least degree, any judicious efforts to cultivate the human mind. On the contrary, I wish to awaken a more general atten-

tion to this subject. But I would not have this attention confined to children, and to that age when the human system requires all its energies to perfect the organization. Education should be made the business of life, and the multiplication of books has now placed the means of acquiring knowledge within the reach of all.

I have endeavoured, also, in this work, to point out what I conceive to be the most frequent cause of the ill health of literary men in this country ; and to show that only by carefully developing and judiciously exercising the organs of the body, and especially the brain, can mental labour be long performed with energy, without injury to the health.

I hope also that my remarks may serve to awaken some attention to the study of human *Anatomy* and *Physiology* ; on which all plans of education ought to be founded. The general neglect of these sciences is one of the most extraordinary facts of the kind that this inquiring age presents. Not to know the composition of most inorganic substances, and not to understand the mechanism of the steam-boat or the spinning-jenny, is considered disgrace-

ful, by men who live and die totally ignorant of the far more curious and wonderful mechanism which their own bodies present.

This work is given to the public with the hope that it will be read with candour, and that the facts adduced, though presented in a very imperfect manner, will have their proper weight. If they do, I shall confidently expect that it will prove of some service to the cause of education in this country.

A. B.

Hartford, Nov. 21st, 1832.

P R E F A C E
TO THE GLASGOW EDITION,
BY ROBERT MACNISH, M. D.

Author of the Philosophy of Sleep, Anatomy of Drunkenness, etc.

HAVING been requested to undertake the superintendence of a reprint of Dr. Brigham's little treatise, I have done so most willingly, from a conviction of the great benefit which will result to the community by a dissemination of the principles and precepts contained in so admirable a disquisition on the baneful influence of excessive mental cultivation in childhood and early youth. Hitherto, a lamentable degree of ignorance has prevailed with regard to the subject of education. While the consequences of premature or immoderate exercise of other organs are fully acknowledged, the brain has been treated as if it were an exception to the

general rule ; and all the laws which govern the rest of the animal economy violated with regard to this, the most complicated, the most liable to disorder, and, by many degrees, the most important of all the organs. Every one knows the consequence of overloading the stomach of a child, and the absurdity of demanding from human beings at this early age, the muscular efforts of fully developed manhood ; yet many persons see no impropriety in over-loading or over-working the youthful brain. With the bad effects of exertion in excess upon the other organs staring them in the face, they persist in taxing a child's brain as they would that of an adult ; and in demanding from a structure not thoroughly matured the same results as from the same structure at its full and perfect growth. What are the consequences of such lamentable ignorance ?—they are as obvious as the sun at noon-day to any one who chooses to take the trouble of investigating them. The functions of that organic apparatus with which the mind works are permanently injured ; and the person either becomes the victim of disease of its texture, or, at least, degenerates into a dull, common-place—often

half-idiotic—being ; while under more judicious management, he might have passed through the world in the possession of excellent intellect, and free from a thousand harassing nervous symptoms and idle apprehensions which prove the annoyance of his life. Till the principle is firmly impressed upon, and recognised by the public, that the brain is the material organ of the mind, and that the latter can only manifest itself powerfully through the medium of a healthy organ, things can never be otherwise ; and people will go on taxing the brain beyond its powers, and thus giving it an unnatural, but short-lived, energy, like to the ephemeral invigoration communicated to the muscles during a paroxysm of madness. The brain being impaired by such early excess of exertion, the mind, as a natural consequence, is destitute of a healthy medium of manifestation, and displays itself in a feeble and imperfect form, for the same reason that the most sparkling gem is beheld dimly and indistinctly if seen through a current of muddy water. To force the organ of the mind to such immoderate action, during childhood and youth, as it is often subjected to in modern education,

can only be attended with one result. A temporary blaze of intellect is excited which astonishes and delights the deluded parent, but it is as the blaze of flax whose rapid burst of brilliance is almost as rapidly extinguished. The bright intellect displayed by highly-gifted children is, in most cases, the result of disease, or of a state of brain closely bordering thereupon. Such individuals usually turn out most ordinary adults. Common observation which detected so self-evident a fact has not gone farther, nor endeavoured to trace the cause of this state of things, and in what manner it may be best counteracted. Within the last few years, more has been done to set the public mind right in this matter than had been accomplished in all previous time. Dr. Spurzheim—Mr. Combe, Dr. Combe, and other able writers on the physiology and pathology of the brain have brought their talents to bear with powerful and beneficial effect upon the very point under consideration ; and latterly Dr. Brigham has devoted himself to the same task in a manner not unworthy the ablest of his predecessors. Few better books can be put into the hands of parents and teachers, than the little treatise of

this enlightened American physician, which is now reprinted in the confident hope that a general knowledge of its contents must be attended with great public benefit.

To the present reprint I have added a variety of original notes which I hope will be found useful. These are enclosed in brackets and indicated by my initials.

Glasgow, Feb. 15th, 1836.

P R E F A C E
TO THE EDINBURGH EDITION,
BY JAMES SIMPSON, ESQ., ADVOCATE,
Author of "The Philosophy of Education."

THIS work has attracted much notice on the other side of the Atlantic, and although not yet known on this to the extent its vitally important views demand, it has roused so marked an interest wherever it has been read, and contains matter so essential to the welfare of humanity, that a reprint of it has been felt to be almost the performance of a moral duty. Dr. Brigham warns parents, and educationists generally, against the danger of tasking the human brain, before the age when it is sufficiently consolidated to be the fit instrument of mental labour. It behooves all concerned in the management of the young to attend to this warn-

ing ; and therefore it is that the present reprint is offered in the cheapest possible form.

One peculiarity has marked the appearance of the volume in this country. It has been hailed—it may be said *seized*—by each of two classes of educationists, who are, nevertheless, in antipodal opposition to each other on the subject of Infant Education. Foremost of the enemies of that system, was the late William Cobbett, who survived his perusal of the book a very short time. That writer held that Dr. Brigham had settled the question of Infant training of *all* kinds, and declared an intention of printing a cheap edition of his work to abate, as he said, the nuisance of Infant Schools. With confidence nothing inferior, the friends of these institutions claimed Dr. Brigham as *their* ally ; and have been not less urgent for a cheap reprint of a work, which, when properly understood, they maintain, is all on their own side, an invaluable present to their system, and calculated not to put down, but to regulate and improve Infant Schools, and to throw just the degree and kind of light that was yet wanted upon the principles on which they may best be conducted.

This singular, but not uninteresting competition for the possession of Dr. Brigham, whose position is like that of Garrick between the two histrionic muses in the picture by Sir Joshua Reynolds, cannot affect the merits of the book itself. Of these the public will judge, leaving the champions on both sides of the Infant School controversy to try fairly which shall carry off a prize which both so ardently covet, and which shall make the best use of it for its benevolent purposes, the benefit of mankind.

Edinburgh, December 23, 1835.

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INFLUENCE OF
MENTAL CULTIVATION
UPON HEALTH.

THE influence which the exercise of the intellectual faculties has upon the health, growth, and proper development of the body, is a subject of interesting inquiry to every rational being.

The peculiarly intellectual character of the present age, the high mental excitement which pervades all classes of society, and of which the child partakes in its very infancy, render it more important now, than has ever been before, for men, and particularly for the inhabitants of the United States, to possess correct views upon this subject. In this country, where the Government and Institutions are of the most liberal character, where the highest honours and distinctions are put into one common market, and made the re-

wards of personal merit, men are constantly stimulated to mental industry. The accidental circumstances of fortune, parentage, or the favour of the great, have here but little control; the power to gain high and desirable stations is to be derived from knowledge; and nobility and dignity of character belong only to those who possess enlarged and cultivated minds.

Hence we find, that, by all classes of the community, the culture of the mind is considered as the first and most important pursuit, especially for those in early life. The parent whose own education was deficient, soon perceives its value, in the influence and power with which it rewards those around him who do possess it, and is willing to make great exertions to enable his children to acquire that knowledge which it was his misfortune not to have obtained. Though he has never expected, for himself, any other station in society than that of a daily labourer in the field or the work-shop; yet he aims to prepare his son for a different fortune, and aspires to place him among the most distinguished of the learned, or among the rulers of his country. Conscious that without education such an elevation cannot be attained, he becomes earnestly desirous of the mental improvement of his child: he watches over his infancy with intense anxiety, endeavouring to call

forth and strengthen at an early period those powers of mind which will enable him in future years to sway and delight mankind.

This prevalent eagerness for intellectual improvement in our republic, leads to a constant search after new and sure methods by which the education of children may be promoted. Hence we so frequently hear novel plans proposed for the earlier and more rapid development of the infant mind, and see machines invented for accelerating the progress of babes in the acquisition of what is called "useful knowledge." Bookstores are filled with innumerable works of instruction for children, and parents anxiously resort to every method which will enable their offspring to become prodigies in mental endowments, while in every other respect they remain weak and delicate infants.

When such feelings and opinions prevail extensively, respecting the importance of developing and cultivating the mental powers of young children, it would not be surprising if, to accomplish that which is thought to be so desirable an object, some injudicious if not dangerous methods should be adopted. It becomes important, therefore, to examine occasionally and see whether parents and teachers, in their great eagerness to produce good results, are not sometimes too regardless of the in-

jury which some of the methods employed may produce.

Many physicians of great experience are of the opinion, that efforts to develop the minds of young children are very frequently injurious ; and from instances of disease in children which I have witnessed, I am forced to believe that the danger is indeed great, and that very often in attempting to call forth and cultivate the intellectual faculties of children before they are five or six or seven years of age, serious and lasting injury has been done both to the body and the mind. The danger arises from parents and teachers forgetting or disregarding this important fact, that, although the mind is immaterial and indestructible, it is yet allied to a material body, upon the healthy state of which the intellect is dependent for vigour and power.

Of the nature or essence of mind we are ignorant.—We believe it is distinct from matter. We do know, however, that it manifests itself solely by the aid of material organs, and that a well-formed and healthy condition of these organs is as essential to correct and powerful mental action, as well-developed and healthy lungs are for the performance of free and perfect respiration, or a sound state of the eye and the ear for seeing and hearing. In consequence of this intimate connexion between

the mind and body, we cannot doubt that mental labour calls into action some organ, and that, if continued for a great length of time, it will fatigue, and may injure this organ, and unfit it for its accustomed duties, just as too much excitement of the heart or stomach will injure these organs, and derange the circulation and digestion.

If these observations are true, (and that they are I think can be abundantly proved,) every person will perceive, that in cultivating the mental powers of children, we should be less anxious to ascertain how rapidly and to how great an extent they may be developed, than how much the delicate organ or organs by which the mind acts may be excited without injury to the body or the mind.

Very different views, I am aware, respecting the education of children, prevail in this country. In most schools, the importance of a sound body, and a well-developed organization to the production of correct and long-continued mental action has been overlooked ; and both parents and teachers have chiefly laboured to discover the quickest methods of developing the minds of children, without once thinking that mental labour itself could injure any part of the corporeal system.

But in commencing the inquiry as to the influence which the cultivation of the mind has upon the health of the body, it will be necessary first to

ascertain what part or organ of the human system is called into action by mental labour, and then to trace the effect which this labour has upon that part of the system, and upon other organs of the body, at different periods of life.

SECTION I.

THE BRAIN THE MATERIAL ORGAN BY WHICH THE MENTAL FACULTIES ARE MANIFESTED.

EVERY part of the human system has undoubtedly been created for the performance of some action ; as the heart for the circulation of the blood, the eye for seeing, the ear for hearing, the nerves for sensation, the bones to sustain, and the muscles to move the body.

That action which nature intended a certain organ to perform, cannot be executed by another organ ; the ear cannot supply the place of the eye, or the nerves perform the duties assigned to the muscles. The particular action or duty assigned to several organs of the body we know by the evidence of our senses. We can see and feel the heart beat and the muscles contract. But as regards the action or function of other organs, we have not the same evidence. We do not see the action by which the liver secretes the bile, nor that by which the eye conveys to us a knowledge

of outward things, and of their different colours, &c. We do not know, from the evidence of our senses, that any action at all is excited in these organs to produce such results ; still we are confident that the liver does produce the bile, and that the eye sees. So as regards mental action, we do not, to be sure, witness it. We never see the mind at work. So far as we can discover by our senses, the most profound thoughts of the philosopher, or the finest conceptions of the poet, produces no action of the brain. The mental operation which determined Cæsar to pass the Rubicon, or Napoleon the heights of St. Bernard, could not be perceived to increase or change the action of the brain ; yet such facts do not force us to believe that the mind acts independently of this organ. We do not doubt that the stomach is in action, when it separates from the numerous articles which compose an epicure's dinner, or from the coarse and simple fare of the Esquimaux, those particles and those only which are nutritious, and appropriates them to the support of the body, although this action cannot be perceived by us. Neither do we doubt the formation of bile from the blood by the liver, as has been hinted, nor the action of numerous other organs of the body, though we can derive no knowledge concerning their operations through the senses : they

are just as mysterious to us as the manner in which the brain modifies thought by its action.

The brain is one of the largest organs in the body ; it is better supplied with blood than any other, and is better protected. These facts show that nature designed it, to answer very important purposes ; and unless it is the organ by which mental operations are performed, there is but little for it to do, and that little comparatively trifling. That it is, however, the “material organ of all the mental faculties, scarcely, at this period of science, requires to be proved.”* To “discipline the mind,” means, therefore, to call into regular and repeated action certain portions of the brain, and to enable them to manifest easily and powerfully certain mental operations : this process is like that of exercising other organs of the body, thus giving them increased facility in the performance of their respective functions.

There is much proof that the brain consists of a congeries of organs, each of which, in a healthy state, manifests a particular faculty of the mind, and that the power of each faculty chiefly depends on the size of its appropriate organ. I allude to these facts, however, only for the purpose of directing the inquiries of others to them. My present aim is simply to show that the brain, consi-

* Elements of Pathology, by Caleb Hillier Parry.

dered as a whole, is the instrument by which the mind operates ; and I hope to impress this fact deeply upon the minds of all those who are engaged in the education of youth.

As a first proof, I will refer to that belief in the dependence of the mind upon a sound state of the body, which is forced upon us by almost daily occurrences. We see that severe blows upon the head are followed by an entire deprivation of intellect ; sensation and volition are destroyed, at the same time no part of the system is injured but the brain, and the action of other organs goes on as usual. When a person is thus, by a blow or by a fall, deprived of his reason, the by-standers by an instinctive impulse look to the head to find the injury. No one ever supposes that an injury of the hand or foot will affect the mind and derange its operations, but all uniformly expect such a result when the brain is wounded ; and this general expectation is founded upon observed facts.

Insanity furnishes further evidence that the brain is the organ by which the mind acts ; for this is not a disease of the immaterial mind itself, but of the brain, and often resulting from some injury. Such a diseased state of the organ of the mind, of the very instrument of thought or of some part of it, deranges the intellectual faculties, just as a diseased state of the stomach deranges digestion.

The immortal and immaterial mind is, in itself, surely, incapable of disease, of decay and derangement; but being allied to a material organ, upon which it is entirely dependent for its manifestations upon earth, these manifestations are suspended or disordered when this organ is diseased.

If the mind could be deranged, independently of any bodily disease, such a possibility would tend to destroy the hope of its immortality which we gain from reason; for that which is capable of disease and decay may die. Besides, it would be natural to expect that mere mental derangement might be cured by reasoning, and by appeals to the understanding. But attempts to restore the mind in this manner generally prove useless, and are often injurious; for insane persons feel that their understandings are insulted whenever opposition is made to their own hallucinations and to the evidence of their senses. It is fortunate for them, that the true nature of mental derangement has of late been acknowledged in practice, and that in all attempts to benefit and cure this unfortunate class of beings, they have been assigned to the physician, and treated for corporeal disease.

The phrase *derangement of mind*, conveys an erroneous idea; for such derangement is only a symptom of disease in the head, and is not the primary affection. It is true, that moral and mental causes may

produce insanity, but they produce it by first occasioning either functional or organic disease of the brain. On examining the heads of those who die insane, some disease of the brain or its appendages is generally found. I am aware of the statement by many writers, that they have examined heads of the insane, and found no trace of organic disease. But, until late years, there has not usually been great accuracy in such examinations, and slight organic disease might have been overlooked. Even admitting that there was no organic disease in the cases described by these writers, there was undoubtedly functional disease inappreciable by the senses ; just as there is often great disorder of the stomach and derangement of digestion which cannot be discovered by dissection. There are in fact no diseases which are independent of affected organs, although the affection may not always be evident to the senses.*

* [In tic doloureux, tetanus, paralysis and other nervous affections dissection often throws no light whatever upon the disease, and for any information which we are capable of deriving from this source we may with perfect safety deny the existence of disease altogether. Yet what man of sane mind would do so ? We are perfectly assured by the evidence of our reason that in such affections the nerves are not in a natural or healthy state. They are subjected to the influence of some morbid change which affects the integrity of their functions, and whether we can trace this change or not by physical signs,

Although mental derangement may perhaps sometimes occur in individuals who after death exhibit no trace of organic disease, I think such cases are more rare than has generally been supposed. Dr. Haslam says, that insanity is always connected with organic alterations of the brain. Greding has noticed thickening of the skull in one hundred and sixty-seven cases out of two hundred and sixteen, besides other organic disease. Spurzheim says he *always* found changes of structure in the heads of insane people. M. Georget dissected a great number of brains, and his experience is conformable to that of the authors above-mentioned.* Mr. Davidson, House Surgeon to the Lancaster County Lunatic Asylum, examined with great care the heads of two hundred patients who died in the asylum, "and he scarcely met with a single instance in which traces of disease in the brain or its membranes were not evident, even

obvious to the senses, we are not the less certain of its existence. So it is with the brain. If the great principle can be established that the brain is the material organ of the mind, it follows inevitably that in all disordered states of mental action the fault lies with this organ and that it must be diseased, whether we can trace morbid changes of structure or not.—R. M.]

* Medico-Chirurgical Review, 1827.

when lunacy was recent, and a patient died of a different disease.”*

Dr. Wright, of the Bethlem Lunatic Hospital, states, that in one hundred cases of insane individuals, whose heads he examined, all exhibited signs of disease; in *ninety* cases the signs were very distinct and palpable; in the remaining ten they were fainter, but still existed in some form or other,—such, for instance, as that of bloody points, when the brain was cut through.†

One of these writers for the prize offered some years ago by the celebrated Esquirol, for the best Dissertation on Insanity, observes, that he examined the heads of more than one hundred individuals who died from insanity, and comes to the following conclusions:—

1st. That in the brains of those who die of insanity, changes of structure will always be found.

2d. That these changes are the consequences of inflammation, either acute or chronic.

3d. That there exists a correspondence between the symptoms and the organic changes; and that the names monomania, mania, &c., ought only to

* *Observations on Mental Derangement*, by Andrew Combe, M. D.

† *Medico-Chirurgical Review*, 1828.

be employed as representing degrees and stages of inflammation of the brain.*

These references to the intimate connexion between insanity and disease of the brain have been made, because I propose to show hereafter, that whatever strongly excites the mind or its organ, whether it be study or intense feeling, tends to produce this awful calamity. I shall proceed now with additional evidence that the brain is the material organ of thought.

This appears then farther, from the fact, that pressure on the brain suspends all the operations of mind. If a person receives a blow upon the head which depresses a portion of the skull upon the brain, his intellect is suspended or deranged until such pressure is removed. Cases like the following are not uncommon. A man at the battle of Waterloo, had a small portion of his skull-bone beat in upon the brain, to the depth of half an inch. This caused volition and sensation to cease, and he was nearly in a lifeless state. Mr. Cooper raised up the depressed portion of bone from the brain, and then the man immediately arose, dressed himself, became perfectly rational, and recovered rapidly.†

* Archives Generales de Medicine, 1825.

† Principles of Military Surgery, by John Hennen.

The following case occurred in Hartford, within a few weeks:—H. O., a young man, fell in the evening through the scuttle of a store, but arose immediately, mentioned the fall to some of his acquaintance, and transacted business during the evening. Next day he was found in bed in nearly a senseless state, and soon became incapable of speaking, hearing, seeing, or swallowing, and appeared to be dying. There was no evidence of any fracture of the skull, and but very slight appearance of any external injury whatever. A small swelling over the right ear, and the conviction that he could live but a few minutes in the state in which he then was, determined his medical advisers to perforate the skull.

I removed a small portion of the bone beneath the slight swelling over the ear, by the trephine, and found more than a gill of clotted blood, which had probably flowed gradually from a wounded blood-vessel. On removing this blood, the man immediately spoke, soon recovered his mind entirely, and is now, six weeks after the accident, in good health, both as to mind and body.

Richerand mentions the case of a woman whose brain was exposed, in consequence of the removal of a considerable portion of its bony covering by disease. He says he repeatedly made pressure on the brain, and each time suspended all feeling and

all intellect, which were instantly restored when the pressure was withdrawn. The same writer also relates another case, that of a man who had been trepanned, and who perceived his intellectual faculties failing, and his existence apparently drawing to a close, every time the effused blood collected upon the brain so as to produce pressure.* Professor Chapman, of Philadelphia, mentions in his Lectures, that he saw an individual with his skull perforated and the brain exposed, who was accustomed to submit himself to the same experiment of pressure as the above, and who was exhibited by the late Professor Wistar to his class. His intellect and moral faculties disappeared, on the application of pressure to the brain: they were held under the thumb, as it were, and restored at pleasure to their full activity by discontinuing the pressure.†

But the most extraordinary case of this kind within my knowledge, and one peculiarly interesting to the physiologist and metaphysician, is related by Sir Astley Cooper in his Surgical Lectures.

A man, by the name of Jones, received an injury of his head, while on board a vessel in the

* Richerand's Elements of Physiology.

† Principles of Medicine, by Samuel Jackson, M. D.

Mediterranean, which rendered him insensible. The vessel, soon after this accident, made Gibraltar, where Jones was placed in the Hospital, and remained several months in the same insensible state. He was then carried on board the Dolphin frigate to Deptford, and from thence was sent to St. Thomas's Hospital, London. He lay constantly on his back, and breathed with difficulty. His pulse was regular, and each time it beat, he moved his fingers. When hungry or thirsty, he moved his lips and tongue. Mr. Cline, the surgeon, found a portion of the skull depressed, trepanned him, and removed the depressed portion. Immediately after this operation, the motion of his fingers ceased, and at 4 o'clock in the afternoon (the operation having been performed at one,) he sat up in bed ; sensation and volition returned, and in four days he got out of bed and conversed. The last thing he remembered was the circumstance of taking a prize in the Mediterranean.* "From the moment of the accident, *thirteen months and a few days*, oblivion had come over him, and all recollection had ceased. He had, for *more than one year*, drank of the cup of Lethe, and lived wholly unconscious of existence ; yet, on removing a small portion of bone which pressed upon the

* Lectures of Sir Astley Cooper, by Frederick Tyrrell.

brain, he was restored to the full possession of the powers of his mind and body."*

It is curious to notice, that often an injury of the brain impairs only that part of the mental faculties. Such instances give great support to the Phrenological views of Gall and Spurzheim, who contend for a plurality of organs in the brain, and a separate and peculiar function to each organ, as, one organ for comparison, another for language, another for tune, &c.

Dr. Beattie mentions the case of a learned man, who, after a blow on his head, forgot all his Greek, a language he was well versed in before the injury. His mind and memory were not affected in any other respect. Another person, mentioned by Dr. Abercrombie, lost all recollection of his having a wife and children, for several days after a similar injury, while his memory of the accident and of recent circumstances was perfect.

Sir Astley Cooper mentions, from personal knowledge, the case of a German sugar-baker, with disease of the brain, who, in the early stage of his complaint, spoke English, but, as his disease advanced, forgot this language, and remembered only the German. The same author relates the case of a man at St. Thomas's hospital, who, after

* Scalpel, 1824.

a blow upon his head, was found talking in a language unknown to all, until a Welsh woman, who entered the hospital, recognised it as Welsh : the blow upon his head had caused him to forget the English language.*

Dr. Conolly relates a still more remarkable case of a young clergyman, whose head was severely injured a few days before that on which he was to have been married. He recovered as to his health, and lived until the age of eighty ; but from the time of the injury his understanding was permanently deranged, though he retained the recollection of his approaching marriage, talked of nothing else during his whole life, and expressed impatience for the arrival of the happy day.

But we see analogous affections resulting from fevers, and other diseases which affect the brain. Dr. Rush says that many of the old Germans and Swiss in Pennsylvania, who had not spoken their

* [During an attack of fever accompanied with great cerebral action I forgot the names of things although the mind was in other respects perfectly unaffected. I know a gentleman who in consequence of the excessive over-working of his brain during the composition of a French and English Dictionary, lost the memory of words for a considerable time. His knowledge of French, German and Italian, which was very extensive, disappeared from his mind as if by enchantment, and did not return till the brain had its usual energy restored by quiescence.—R. M.]

native language for fifty or sixty years, and who had probably forgotten it, would often use it in sickness; and he explains it by supposing that the stimulus of the fever in their brains revived their recollection.

He refers also to the case of an Italian, who was master of the Italian, French and English languages, but who, in a fever which terminated his life in the city of New York, spoke English in the commencement of his disease, French only in the middle, and on the day of his death Italian.

Numerous cases are related, of persons, who, from disease affecting the brain, forget names and events, times and places, but retain a perfect recollection of persons and numbers. As like symptoms arise from blows on the head, and often from fevers, we cannot doubt that the brain is very similarly affected in both cases. Insanity is known frequently to arise from blows on the head, and fevers often make people insane for years, who are suddenly restored to the full possession of their mental powers, just as Jones was restored by trepanning, after remaining a year in an insensible state.

Numerous instances similar to those which I have related, are found in works on mental derangement, and they all tend to prove that a well-developed and sound brain is absolutely necessary

for correct and powerful operation of the mind. Many of them are exceedingly interesting, and very difficult to explain, except on the ground adopted by Gall and Spurzheim, and eloquently developed and illustrated by Messrs. Combe.*

These writers divide the intellectual faculties into two classes—the *knowing* and the *reflecting*. The knowing faculties are *individuality, form, size, weight, colouring, locality, order, time, number, tune, and language*; the reflecting faculties are *comparison* and *causality*. Each faculty has a separate and material instrument or organ in the brain; and memory belongs to each faculty: hence there are as many kinds of memory as there are organs for the knowing and reflecting faculties. They say, moreover, that memory is only a degree of activity of the organs: hence from disease or other causes, increasing the activity of the organs, the recollection of things is far more vivid at one time than at another. This enables us to explain those cases that frequently occur, in which, from some injury of the brain, a person loses the memory of words, but retains that of things. Dr. Gregory mentions the case of a lady, who, after an apoplectic attack, recovered her recollection of things, but could not

* See System of Phrenology, by George Combe, and Observations on Mental Derangement, by Andrew Combe, M. D.

name them ; others forget the names of their most intimate friends, whose persons they perfectly recollect. I have a patient at the present time, whose memory is good as respects every thing but places : he recollects perfectly, persons, names, events, &c., but does not recollect his own or his neighbours' houses, or the place in which he has resided for many years.

Further proof of the connexion between the state of the brain and that of the mind, might be adduced from the many instances of idiots and cretins, who are all nearly destitute of intellect, and defective in the organization of their heads. There have been many examinations of the heads of such individuals, says Esquirol, and they have usually been found to be of vicious formation. The same writer adds this important remark, "that idiots and cretins sometimes manifest great intelligence in early life, and give promise of possessing superior mental powers ; but these premature beings soon become exhausted, their intellects remain stationary, and the hopes they excited soon vanish."*

The general proposition which I wish to establish, is made evident, also, from the fact that

* Dictionnaire des Sciences Medicales, Vol. 23.

whatever excites the mind, excites and stimulates the brain.

This we know from experience in a severe headache. We perceive the pain to be increased by intense study or thinking, and that mental application determines more blood to the head. So true is it that mental excitement produces an increased flow of blood to the head, that surgeons are very careful to preserve a quiet state of mind in those whose heads are wounded. Sir Astley Cooper, speaking of such injuries, says, that if any mental power remains, all excitement of the brain should be avoided ; and relates the following case. "A young gentleman was brought to me from the north of England, who had lost a portion of his skull just above the eyebrow. On examining the head, I distinctly saw the pulsations of the brain, which were regular and slow ; but at this time he was agitated by some opposition to his wishes, and directly the pulsations of the brain were increased, and became more violent, and more blood rushed to the brain. If, therefore, you omit to keep the mind free from agitation, your other means will be unavailing in injuries of the head."*

The same author mentions another similar case ;

* Lectures on Surgery, &c.

that of a young man, who had an opening in his skull from a wound, through which he could see an increased action in the brain, whenever any thing occurred, even in conversation, to agitate the mind of the patient.

The following case is related by M. Broussais. M. Thavernier, a captain in the —— regiment, forty-two years of age, moderately stout, but well formed, received in the middle of the Palais Royal, in May, 1815, ninety days before his death, a letter containing *bad news*. Whilst perusing it, he remained motionless as if thunderstruck, and the left side of his face became paralyzed, and drawn to the opposite side. He was taken to Val de Grace, and attended to. At this time he had complete paralysis of the arm, thigh, and leg of the right side, and was unable to speak. After using various remedies for more than two months, he began to improve, and became so much better as to be able to stand up, and to speak, although with difficulty.

In this state of improvement, M. Thavernier received another letter, said to be from his wife: he read it, and instantly there occurred loss of speech, general immobility, abolition of sense, and complete apoplexy. He died in three days after this attack, and, on examining the head, there was found engorgement of blood in the sinuses, and

several abscesses were observed in the substance of the brain, and other marks of organic disease. M. Broussais considers this a case of chronic inflammation of the brain induced by a moral cause.*

The same general fact, that mental excitement stimulates the brain, is proved by numberless cases, and forms the basis of correct treatment of diseases of the brain, and especially of insanity.

This disease is generally produced by morbid excitement of some portions of the brain, and requires for its cure that this disordered organ should be left in absolute repose. Hence arises the benefit of Asylums for Lunatics, where this unhappy class of persons have no cares, no wants to provide for, and where their minds are not excited, but soothed by kind words and gentle and affectionate treatment.

Sometimes the increased flow of blood to the head is such as wonderfully to increase the powers of the mind. Pinel, and other writers on insanity, relate cases of patients, who possessed but weak minds when in their usual state of health, but who exhibited very superior powers of intellect during paroxysms of insanity, which determined more blood to the head than ordinarily. Similar facts

* History of Chronic Phlegmasiae, by F. J. V. Broussais, Vol. 1.

I have noticed in the insane: sometimes the memory seems to be wonderfully increased; at other times, imagination, or wit, &c.; and thus many of the insane are supposed to possess uncommonly brilliant mental powers. I have known an insane person, during a paroxysm of insanity, which usually occurred about once a month, exhibit a very animated countenance, and repeat correctly and with great force and dignity, passages from Shak-speare and other writers, but who in the intervals of these paroxysms, appeared stupid, thoughtless, and forgetful.

Many instances are on record, of the development of genius by disease during childhood. The celebrated Novalis had his great mind apparently created by a very severe disease when he was in his ninth year.* An increase of power may be given to the brain by an increased determination of blood to it, just as the senses are often rendered more acute, by disease and partial inflammation; or it may arise from the repose allowed the brain during disease, and its feeble powers not being overtired and injured by mental application.

I might adduce many more cases to prove the very intimate connexion between the brain and the mind, that it is a defective brain which makes

* Foreign Review.

the idiot, and a diseased brain which causes delirium and insanity ; and that all the various states of mind produced by alcohol or by opium, &c., arise from the disordered action which these articles produce in the brain ; that the weak mind manifested by the infant, and the feeble mind by the aged, are produced by a small and undeveloped, or an enfeebled and diseased brain, and not by a change of the immaterial mind itself. But cases enough have been cited to prove these truths. And if we do admit that the brain is the organ by which the mind acts, we must acknowledge the necessity of guarding this organ most carefully, of exercising it with extreme caution, of not endangering its delicate structure at any period of life by too much labour, or preventing its full development by too little ; for the regular exercise of all the organs of the brain is necessary to prepare them for the active and powerful manifestation of the mental faculties.

The healthy condition and proper exercise of the brain, are therefore far more important than of any other organ of the body, for we might as well expect good digestion with a diseased stomach, or good music from a broken instrument, as a good mind with a disordered, enfeebled, or improperly developed brain. And yet, how little regard has been paid to these important truths, in

the cultivation of the mind! While people are exceedingly fearful of enfeebling and destroying digestion, by exciting and overtasking the stomach, they do not appear to think they may enfeeble or derange the operation of the mind by exciting the brain, by tasking it when it is tender and imperfectly developed, as it is in childhood,

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SECTION II.

CONDITION OF THE BRAIN IN EARLY LIFE—EFFECT
ON THE MIND—OF EXCITEMENT AND ENLARGE-
MENT OF THE BRAIN BY DISEASE—MENTAL PRE-
COCITY USUALLY A SYMPTOM OF DISEASE.

SINCE at first, no organ is fully developed, and prepared for the powerful execution of its appropriate function, let us inquire at what time of life, nature has prepared the brain for the performance of the important office of manifesting the mind.

Let us begin with the infant, and ascertain what is the condition of its brain in early life.

The brain of a new-born infant weighs about ten ounces;* that of an adult, generally, three pounds and a half, apothecaries' weight, frequently a little less.—But if the mind of an adult has been long devoted to thought, if he has been engaged in constant study, his brain is usually increased beyond this weight. The brain of Byron, for in-

* Meckel's Anatomy, Vol. 2.

stance, is said to have weighed four pounds and a half; and that of the illustrious Cuvier, four pounds thirteen ounces and a half.* The size of this organ increases from the time of birth till manhood, remains stationary from this period until old age, and then diminishes in bulk and weight.† The relative size of its different portions constantly varies during several of the first years of life, and it is not until about the seventh year that all its parts are formed.‡ During childhood it is "very soft, and even almost liquid under the finger, and its different parts cannot be clearly dis-

* [Great difference of opinion exists with regard to the period at which the brain attains its full size. According to Dr. Gall, and other phrenological writers, this does not happen till between the twentieth and thirtieth year, while Sir William Hamilton and the Wenzels allege that it occurs at the age of seven. The latter seems a most incredible assertion. I, for one, do not believe it. The circumference of a grown man's head exceeds on an average, that of a child of seven, by a couple of inches, a difference far too great to be accounted for by the superior thickness of the skull and integuments. The point can very easily be set at rest by comparing a great number of brains of men and of children of seven years taken indiscriminately, and not as I suspect has been the case with the above writers by contrasting large brains of children of that age with small or ordinary sized adult brains.—R. M.]

† Andral's Pathological Anatomy, Vol. 2.

‡ Meckel.

tinguished.”* Still at this time it is supplied with more blood, in proportion to its size, than at any subsequent period. It then grows most rapidly, and more rapidly than any other organ : its weight is nearly doubled at the end of the first six months ; and hence the nervous system, being connected with the brain, is early developed, and becomes the predominating system, in youth. At this period of life, however, which is devoted to the increase of the body, it is necessary that the nervous system should predominate ; for this system is the source of all vital movement, and presides over, and gives energy to those actions which tend to the growth of the organization.—Besides, “Infancy,” says Bichat, “is the age of sensation. As every thing is new to the infant, every thing attracts its eyes, ears, nostrils, &c. That which to us is an object of indifference, is to it a source of pleasure. It was then necessary that the nervous cerebral system should be adapted by its early development to the degree of action which it is then to have.”†

But this great and early development, though necessary for the above purposes, very much increases the liability to disease ; it gives a tendency

* Bichat's General Anatomy, Vol. 1.

† General Antomy.

to convulsions, and to inflammation and dropsy of the brain, and to other diseases of the nervous system, which are most common and fatal in childhood.

It is, therefore, deeply important, that the natural action of the nervous system should not be much increased, either by too much exercise of the mind, or by too strong excitement of the feelings, lest at the same time the liability of children to nervous diseases be increased, and such a predominance given to this system as to make it always easily excited, and disposed to sympathize with disorder in any part of the body; thus generating a predisposition to hypochondriasis and numerous afflicting nervous affections.

Mental excitement, as has been shown, increases the flow of blood to the head, and augments the size and power of the brain, just as exercise of the limbs enlarges and strengthens the muscles of the limbs exercised. The wonderful powers of mind which an infant or child sometimes manifests, and by which he surpasses ordinary children, do not arise from better capacity in the mind itself of the child, but, in fact, from a greater enlargement than usual of some portion or the whole of the brain, by which the mind is sooner enabled to manifest its powers. This enlargement takes place whether the mental precocity arises

from too early and frequent exercise of the mind; or from disease, and it must arise in one of these two ways. But in my opinion, mental precocity is generally a symptom of disease; and hence those who exhibit it very frequently, die young.*

* [George Aspull and the Infant Lyra are cases in point. Both exhibited at a very early period a wonderful genius for music—the first performing upon the piano while a mere boy, in a style worthy of the best performers, and the latter at an equally early age displaying powers hardly inferior upon the harp. The heads of both were unusually large for their age—the intellectual compartment of the brain splendid, and the organ of tune very finely developed. As in the case of all prodigies, their brains were overworked, bad health ensued and death was the consequence, at a period when they had not yet emerged from early boyhood and girlhood. I am very well acquainted with another youthful musical genius quite as wonderful as either of them—Ginlius Regondi the celebrated Guitarist. The brain of this boy is very large, and its configuration of the noblest description whether considered in a moral or intellectual point of view; but it has been too much wrought, and if he survives boyhood, as from the strength of his constitution he has every chance of doing, I am apprehensive that his mental powers will be found to have suffered by this early exertion, and that *as a man* he may be no way remarkable for genius. Still, it is possible that he may prove an exception to the general rule as was the case with Mozart, who exhibited great musical talent and general power of mind at an early age, and retain them unimpaired till the last moment of his splendid career. The reader will find in the 7th volume of the Phrenological Journal, p. 14. a very interesting case of a precocious child, who died, as usual, at an early age, together with

This fact ought to be specially remembered by parents, some of whom regard precocity, unless accompanied by *visible* disease, as a most gratifying indication; and, on account of it, task the memory and intellect of the child. Sometimes, however, it is accompanied by visible deformity of the head, and then the fears of parents are greatly awakened. Take for instance the disease known by the name of rickets. Every person understands that this is a disease of childhood, and, according to the best medical authorities, it arises from the irritation or inflammation of some organ, and frequently of the brain. Its most characteristic symptoms when it affects the brain, are an enlargement of the head, and premature development of the intellectual faculties. On examining the heads of those who have died of this disease, the brain is found very voluminous, but ordinarily healthy. Meckel observes that its mass is increased in rickets; an effect gradually produced, without disorganization of the brain by increased action in its

some practical remarks upon it by the editor of that periodical, Dr. Combe treats of the errors of parents in such cases in the eighth Chapter of his admirable work entitled "the Principles of Physiology applied to the preservation of health, and to the improvement of Physical and Mental Education." This is one of the best works on the subject of health ever published, and ought to be in the hands of every one.—R. M.]

blood-vessels, and the consequent transmission to it of more blood than usual. Being thus augmented in size, increased mental power is the consequence of this augmentation. "One of the most remarkable phenomena in the second stage of rickets," says M. Monfalcon, "is the precocious development, and the energy of the intellectual faculties. Ricketty children have minds active and penetrating; their wit is astonishing; they are susceptible of lively passions, and have perspicacity which does not belong to their age. Their brains enlarge in the same manner as the cranium does." He adds, "this wonderful imagination, this judgment, this premature mental power which rickets occasion, has but a short duration. The intellectual faculties are soon exhausted by the precocity and energy of this development."*

I do not say or believe, that cautious tasking of the minds of young children will frequently cause this disease, but I believe there is great danger that it will produce the same unnatural growth of the brain, and this will give rise to an exhibition of superior mental power, and be followed, as in the case of rickets, by permanent weakness, or loss of mental energy. That an increase of mental power results from other diseases besides rickets,

* Dictionnaire des Sciences Medicales, Vol. 46.

which stimulate the brain, is evident in many instances ; as in fevers that affect the head, in inflammation of the brain, and insanity. The following cases are in point. "I have often," says Pinel, "stopped at the chamber door of a literary gentleman, who, during his paroxysms, appears to soar above the mediocrity of intellect that was familiar to him, solely to admire his *newly acquired* powers of eloquence. He declaimed upon the subject of the revolution with all the force, the dignity and purity of language, that this very interesting subject could admit of. At other times he was a man of very ordinary abilities."

The memory sometimes receives a wonderful addition of power from an increased flow of blood to the head, caused by some slight irritation, or stimulation of the brain. Dr. Abercrombie relates the case of a boy, who was trepanned for a fracture of the skull, at the age of four. He was at the time in complete stupor, and after his recovery retained no recollection of the operation. At the age of fifteen, during the delirium of a fever, he gave a correct description of the operation, and the persons that were present at it, with their dress and other minute particulars. It is added, that he had never been heard to allude to it before, and no means are known by which he could have acquired a knowledge of the circumstances he

mentioned. I have myself seen repeated instances of the increase of the power of memory during delirium, paroxysms of fever, and other affections which determined more blood than usual to the head.

Intoxication sometimes increases the energy of the intellectual faculties, and revives the memory. Mr. Combe mentions the case of a porter, who, in a state of intoxication, left a parcel at a wrong house, and, when sober, could not recollect what he had done with it. But the next time he became stimulated with liquor, he recollected where he had left it. Shakspeare, no bad authority, says that "wine makes the brain apprehensive, quick, and inventive;" and another authority of celebrity truly observes, "that wine, up to a certain point, rather tends to steady the intellect, and that a few glasses advantageously affected his own."^{*} This effect, almost all persons have experienced. They have perceived that their mental and moral faculties were greatly and rapidly changed by alcohol, or wine, or opium, or some other substance which affects the circulation. Who has not felt that transient joy, happiness, or courage, is a marketable commodity, "that ec-

* Confessions of an English opium-eater.

stacies can be corked up in bottles, or peace of mind sent in gallons by the mail coach.”

From such facts we learn, that the varying states of the organization have a powerful influence upon the intellectual and moral faculties ; and that to affect the mind beneficially, and to increase and perpetuate its energy, it is necessary to give constant attention to the agents that act upon the body, and watch that they do not injure the mind by too much excitement of the physical system, nor prevent the proper development of its powers, by too little ; for wine, and all other unnatural stimuli, though they may for a short time quicken and give energy to the intellect, ultimately depress and enfeeble it ; and on the other hand, long-continued low diet, and a want of sufficient nutriment for the body debilitates the mind.

I proceed to mention additional cases, to prove that mental power is increased by the action of the brain. During an attack of delirium, many people have learned to read and write with great rapidity, but have been unable to do either after their reason returned, and increased determination of blood to the brain had ceased. Another attack of insanity, however, revived their memory, and their ability to read and write. Many people have their recollection of past events wonderfully restored by dreams. Several instances of this kind

are related by Dr. Abercrombie, in his "Inquiries concerning the Intellectual Powers;" but I think they must be accounted for on the ground of increased activity of certain portions of the brain, during sleep. In somnambulism, which differs but little from dreaming, some persons have been able to recollect things long forgotten, and to talk in a language of which they possessed no knowledge when awake, but with which they had in early life some partial acquaintance. This wonderful power of the memory has been frequently exhibited, by a few, when under great excitement; and, in ignorant and fanatical times, has induced a belief in the gift of tongues. Those who had learned but little of a language when young, and had totally forgotten it, were now, when in a convulsive state, able to speak it fluently; while others were able to repeat long passages from books that they had never read but once, and had not seen for many years.* Similar effects have been produced by *animal magnetism*, which, as every one knows, powerfully affects the imagination. During the state of "extase," caused by *magnetism*, the memory has been often surprisingly perfected; and some have been rendered able to speak in a lan-

* See interesting accounts of the Possedes; Trembleurs des Cevennes; Convulsionnaires de Saint-Medard; Malades exorcisés par Gasner, &c., in *Magnétisme Animal* par Bertrand.

guage they had long forgotten. This state was always accompanied by symptoms that showed an increased determination of blood to the head. All had slight convulsions, the face became red, the eyes bright, and after awhile humid.*¶

Like effects are produced by disease. They are not rare, says M. Bertrand, in all diseases which greatly excite the brain. M. Moreau (de la Sarthe) says, in the *Encyclopedie Methodique*, (Art. Medicine Mentale,) that he had the care of a child twelve or thirteen years of age, who knew only the first elements of the Latin language, and yet suddenly, during the excitement of a nervous fever, became capable of speaking this language with fluency.†

* Bertrand. *Magnetisme Animale*.

† This is stated too strongly, or inaccurately. Probably M. Moreau meant to say, the child who had studied the Latin language was not able to speak it when in health, but during the excitement of fever spoke it fluently. This we can believe, as disease of the brain may revive whatever has been at *any time* in the memory. Thus the child had committed to memory a sufficient number of Latin words to speak the language, but was not able to recall them all at one time when in health, but when delirious was able to do so.

¶ [Any thing with respect to Animal Magnetism must be received with caution. The great majority of scientific men view it in the light of a pure imposture; and yet a committee of the Royal Academy of Sciences in Paris drew up a Report

But the most remarkable and instructive case within my knowledge, one that serves to show the influence of the organization and action of the brain on the mental and moral character, and which appears to me very deserving of the consideration of the metaphysician, is related in the *American Journal of Medical Sciences*, for 1829, by Professor Horner, of the University of Pennsylvania.

Master William M., the fourth child of his parents, was born in Philadelphia on the 4th of June, 1820. At birth, his head was of ordinary size, but very soon, after an attack of dropsy of the brain, it began to grow inordinately. After he began to walk, its size was so great that he attracted much attention; and he was apt to fall, especially forwards, from readily losing his equilibrium. His health was generally good.

Dec. 12th, 1828, he fell against a door, and

favourable to its pretensions, to which such men as Cloquet and Itard have not scrupled to attach their names. Georget, too, long an opponent, became at length favourable to the claims of Animal Magnetism. Still, wise and able men have been deceived before now, even in matters of fact; and till much stronger evidence is given to the world than has hitherto been adduced, people may well be justified for entirely withholding their belief in the magnetic phenomena. The above Report has been translated into English by Mr. Colquhoun, Sheriff of Dumbartenshire, and very well worth perusing.—R. M.]

bruised his forehead; in an hour afterwards he vomited, became very sick, and died the next evening. During his short sickness he had no headache, and complained only of his stomach.

On examining his head, the day after his death, it was found to be considerably larger than that of a full-grown person, measuring twenty-eight inches in circumference. The lateral ventricles contained a great quantity of transparent serum, which had distended the brain to a very great degree, and produced much of the enlargement of the head. The appearance of all the parts of the brain it is not necessary to particularize. Many parts, especially those at the base of the brain, were healthy, and the small blood-vessels were generally congested with blood.

The following interesting account of this child's mental and moral faculties, was furnished by Dr. J. K. Mitchell, the family physician. "When 15 months old, the child spoke well, and, at 18 months, was able to sing a variety of musical airs with tolerable correctness, and always exhibited a strong predilection for music.. His intellectual faculties generally were very respectable, and his powers of observation rather remarkable. But his memory, both of language and sentiments, was such as to excite surprise in those who took pains to converse with him. The following example of

his powers of recollection may not be amiss. A customer of his father having been absent two years, returned, and, on his entrance into the shop, saluted as an acquaintance, its inmates ; but they had forgotten him. On turning to little M., the latter immediately called him by name, inquired kindly about him, and then told him that he had not been to see them for two years.

Of a grave and quiet temperament, he preferred the society of his seniors, and took little interest in the common pastimes of childhood. Only sedate children were agreeable to him. For so youthful a person, his sentiments and affections were of a lofty character. Seeing the distress of his mother, when commercial affairs took his father to Europe, the child, then five years of age, said, "Father will soon be back : if he don't come again, I will be a husband to my mother, and will work for her, and take care of her when she is old."

For two years before his death, little M. became affected by religious impressions, which grew stronger and stronger, until his death. Often advising others, he presented in his own conduct, a fine exemplification of his principles, being distinguished among the children of the family and the school, for love of truth, and general sincerity of character. At length, even while in full health and vigour, he spoke of death as a thing to be de-

sired ; and when dying, expressed pleasure at the approaching crisis."

The following, in my opinion, is the true explanation of the surprising mental powers exhibited by this boy. Disease or some other cause, irritated his brain ; this irritation attracted more than an ordinary quantity of blood to the head, and thus excited, and unnaturally or prematurely developed, certain portions of the brain ; and just in proportion as these were developed, his mental powers were increased.*

A similar case of enlargement of the head from dropsy, accompanied by great power of memory, is related by Dr. Monro, in the second volume of the Medical Transactions of the London College of Physicians ; and cases like the following are not rare in medical books, or in practice. L. H., aged 14, had always appeared in delicate health, without having any serious disease. He exhibited more *maturity of understanding* than is common at

* [I have met with many instances of the same kind. Children of this description are generally grave and studious. They love retirement, and are much more apt to court the society of their seniors than of those of their own age. They are very sensible, shrewd in their remarks and offended at being treated as children. The expression of their countenance is curious. There is a knowing and antiquated look about it which contrasts oddly with their infantile frame.—R. M.]

his age, and preferred study to the usual amusements of children. At the age of 13, he had scrofulous swellings, then disease of the head, and finally convulsions, of which he died. On opening his body, the brain was found very *large*; its vessels turgid with blood.* In the substance of the brain was found a small tumour of the size of a walnut, and of a red colour. Mental application did not, in this case, probably, produce the disease; but the disease itself, by increasing the determination of blood to the brain, caused the early comparative *maturity of understanding*. I have referred to it to show that disease, and constant excitement of the mind in childhood, have similar effects upon the brain, and each may unfit it for the long continuance of its appropriate functions.

I have repeatedly seen cases very similar to the above as to the symptoms, in connexion with scrofulous diseases, and premature development of the mind. Dangerous forms of scrofulous disease among children, have repeatedly fallen under my observation, for which I could not account in any other way, than by supposing that the brain had been exercised, at the expense of other parts of the system, and at a time of life when nature is endeavouring to perfect all the organs of the body.

* Merat, Journal de Medicine, Vol. X.

And after the disease commenced, I have witnessed, with grief, the influence of the same cause, in retarding or preventing recovery. I have seen several affecting and melancholy instances of children, five or six years of age, lingering awhile with diseases from which those less gifted readily recover; and at last dying, notwithstanding the utmost efforts to restore them. During their sickness, they constantly manifested a passion for books, and mental excitement, and were admired for the maturity of their minds. The chance for the recovery of such precocious children, is in my opinion small, when attacked by disease; and several medical men have informed me that their own observations had led them to form the same opinion; and have remarked, that in two cases of sickness, if one of the patients was a child of superior and highly cultivated mental powers, and the other one equally sick, but whose mind had not been excited by study, they should feel much less confident of the recovery of the former than of the latter. This mental precocity, results from an unnatural development of one organ of the body, at the expense of the constitution, as is thus explained by two of the most celebrated men of the medical profession. "It is a fundamental law of the distribution of vital powers," says Bichat, "that when they are increased in one part, they

are diminished in all the rest of the living economy; that the sum is never augmented, but that they are necessarily transported from one organ to another, and therefore to increase the powers of one organ, it is absolutely necessary they should be diminished in the others.”* “Extra development and sensibility of the brain,” says Dr. James Johnson, “cannot take place, but at the expense of some function or structure in the animal or organic system; when, therefore, an undue share of the vital energy of any individual is directed to a particular organ or system, a proportionate subdiction is made from some other organ or system; and this is a most undoubted and most important truth, which is little understood, and less attended to by the world in general.”†

It is thus, that a child is made an intellectual prodigy. The premature development of mind, is owing to the premature development of the brain, occasioned by undue excitement, and the robbing of other organs of their natural share of vital energy. But, as Dr. Johnson says, this is a “truth little attended to by the world in general.” Most parents are ignorant of it, and are generally anxious for the early cultivation of the minds of their

* Physiological Researches upon Life and Death.

† Influence of Civic Life on Health, &c.

children. To effect this object, they are assisted by teachers, who undertake, with the aid of books, maps, machinery and pictures, to make children of only a few years of age understand a vast many truths in Chronology, History, Geometry, and many other sciences; to mature very rapidly their understandings, and surprisingly quicken their reasoning powers. And when a child from much instruction, or from disease, has reached this superior mental condition, *Memoirs and Anecdotes of his Life* are published (for such children seldom live many years,) for the sake of instruction and example.* Such publications have been exten-

* See *Memoirs of John Mooney Mead*, who died April 8th, 1831, aged 4 years, 11 months, and 4 days. He was "taught hymns before he could speak plainly," "reasoned with," and constantly instructed until his last sickness, during which, "when the parents and physician thought him getting better, the disease, *without any assignable cause*, suddenly put on a violent and unexpected form." The Memoir was "examined by several judicious persons—ministers and others, all of whom united in the request that it might be published; and all agreed in the opinion, that a knowledge of *the manner in which the child was treated, together with the results* would be profitable both to parents and children, and a benefit to the cause of education." I sincerely hope they will be; but by producing a very different impression from that which the Memoir is designed to make; and by teaching parents to avoid adopting a similar course with the children committed to their care.—See also *Memoirs of Addison Pinneo, Mary Lothrop, Nathan W. Dickerman, and notices of numerous other young intellectual*

sively circulated ; they have been greatly approved, and probably have had much influence with parents in the education of infants.

Much of the thoughtlessness of parents, regarding the injury they may do their children by too early cultivating their minds, has arisen from the *mystery* in which the *science of mind* has been involved, and ignorance of the connexion between the mind and body ; for we find them exceedingly anxious and careful about the health of their children in other respects. Entirely forgetful of the brain, they know there is danger in exercising many other parts of the body too much, when they are but partially developed. They know that caution is necessary with children in respect to their food, lest their delicate digestive organs should be injured by a too exciting and stimulating regimen. A parent would be greatly alarmed if his little child, by continued encouragement and training, had learned to eat as much food as a healthy adult. Such a prodigy of gluttony might undoubtedly be formed. The method of effecting it, would be somewhat like that of enabling a child to remember, and reason, and study, with the ability and constancy of an adult. Each method is dangerous, but probably the lat-

prodigies, which are to be found in book-stores, in Magazines, and various Periodicals for children.

ter is the more so because the brain is a more delicate organ than the stomach.*

The activity of most of the organs of the body can be very greatly increased ; they can be made to perform their functions for a while with unusual facility and power. I will dwell upon this fact a little. A child, for instance, may be gradually accustomed to eat and digest large quantities of stimulating animal food. I have seen an instance of

[* The gross errors committed by parents in over-working the brains of their offspring has its origin in the false system of philosophy, which has existed from the time of Plato to the present day, and by which the mind is regarded as a separate entity, having no sort of connexion with and being nowise influenced by matter. If Phrenology do nothing else than dispel this preposterous idea it will accomplish much. Had this science been discovered and its principles acted upon a thousand years ago, what grievous errors in education, what incalculable injury to the brain would have been avoided : and what a mass of splendid talent which has been employed in bootless metaphysical speculations might have been profitably turned into more useful channels ! So long as people were ignorant of the fact, that in this life the mind works through the agency of material organs, no rational views of education and the true method of preserving the health of the brain could be entertained. Many writers before the time of Gall knew, indeed, the intimate relation existing between mind and matter, but it was the science of Phrenology, first, discovered by him, which turned the public mind strongly and practically to this important point, and will doubtless in time work a thorough change in public sentiment and be attended with most happy results.—R. M.]

this kind, and when I remonstrated with the parents on the impropriety and danger of allowing a child but two years old, such diet constantly, I was told that he was uncommonly robust; and indeed he appeared to be in vigorous health; but soon after this he had a long inflammatory fever, of an unusual character for children, which I attributed at the time, to the stimulating diet allowed him. This diet appeared also to have an effect upon his disposition, and confirmed the observation of Hufeland, that "infants who are accustomed to eat much animal food become robust, but at the same time passionate, violent and brutal.* A child may also be made to execute surprising muscular movements, such as walking on a rope, and other feats; but these are learned only by long practice, which greatly develops the muscles by which the movements are executed. From frequent and powerful action, the muscles of the arms of blacksmiths and boxers and boatmen, those of the lower limbs of dancers, and those of the faces

[* This fact is undeniable, and yet some parents, not contented with gorging their offspring in this manner, must needs give them highly seasoned condiments, wine and other strong drinks, as if still more to aggravate the violence of their lower propensities. Rousseau remarked that all children were thieves, liars and gluttons. For the latter quality they may often thank their parents.—R. M.]

of buffoons,* become strikingly enlarged when compared with the muscles in other parts of the body. Every employment in which men engage brings into relatively greater action particular parts of the system ; some organs are constantly and actively exercised, while others are condemned to inactivity. To make, therefore, one organ superior to another in power, it is necessary not only to exercise it frequently, but to render other organs inactive, so as not to draw away from it that vital energy which it requires in order to be made perfect.

The important truth resulting from these facts, that *the more any part of the human system is exercised, the more it is enlarged, and its powers increased*, applies equally to all organs of the body ; it applies to the brain as well as the muscles. The heads of great thinkers, as has been stated, are wonderfully large ; and it has been ascertained by admeasurement, that they frequently continue to increase until the subjects are fifty years of age, and long after the other portions of the system

* People who are in the habit of indulging anger, very often develop certain muscles of the face to such a degree as to impart to the countenance an expression of ill-nature, when they are not in anger.

have ceased to enlarge.* "This phenomenon," says M. Itard, "is not very rare, even in the adult, especially among men given to study, or profound meditation, or who devote themselves, without relaxation, to the agitations of an unquiet and enterprising spirit. The head of *Bonaparte*, for instance, was small in youth, but acquired, in after life, a development nearly enormous."†

I would have the parent, therefore, understand that his child may be made to excel in almost any thing; that by increasing the power of certain organs through exercise, he can be made a prodigy of early mental or muscular activity. But I would have him at the same time, understand the conditions upon which this can be effected, and its consequences. I would have him fully aware, that in each case, unusual activity and power are produced by extraordinary development of an organ; and especially that in early life, no one organ of the

* Dictionnaire des Sciences Médicales, Vol. 22, Art. Hydrocephale.

[† In long protracted insanity an opposite state of things may take place, and the brain actually diminish, especially in the intellectual regions. Such, judging from his skull recently discovered, was probably the case with Dean Swift, who for some years before his death was in an imbecile state. Esquirol mentions the case of an insane female whose forehead on admission into the hospital was so large that he had a drawing made of it, but afterwards it became small and narrow.—R. M.]

body can be disproportionately exercised, without the risk of most injurious consequences. Either the over-excited and over-tasked organ itself will be injured for life, or the development of other and essential parts of the system will be arrested forever. From what has been said hitherto, we gather the following facts, which should be made the basis of all instruction ; facts, which I wish often to repeat. *The brain is the material organ by which all the mental faculties are manifested ; it is exceedingly delicate, and but partially developed in childhood ; over-excitement of it when in this state, is extremely hazardous.*

SECTION III.

CONSEQUENCES WHICH HAVE RESULTED FROM INATTENTION TO THE CONNEXION BETWEEN THE MIND AND BODY.—THE BEST MINDS NOT PRODUCED BY EARLY MENTAL CULTURE.

TEACHERS of youth, in general, appear to think, that in exciting the mind, they are exercising something totally independent of the body,—some mysterious entity, whose operations do not require any corporeal assistance. They endeavour to accelerate, to the utmost, the movements of an extremely delicate machine, while most unfortunately they are totally ignorant or regardless of its dependence on the body. They know that its action and power may both be increased for a while, by the application of a certain force ; and when the action becomes deranged, and the power destroyed, they know not what is the difficulty, nor how it can be remedied. Fortunately they do not attempt to remedy it themselves, but call in the physician, who, if he affords any relief at all, does it by ope-

rating on a material organ. If medical men entertained the same views as teachers, they would, in attempting to restore a deranged mind, entirely overlook the agency of the body, and instead of using means calculated to effect a change of action in the brain, would rely solely upon arguments and appeals to the understanding. For if the mind may be cultivated independent of the body, why may not its disorders be removed without reference to the body?*

Instructors of youth, and authors of books for children, would do well to acquaint themselves with human Anatomy and Physiology, before they undertake to cultivate and discipline the mind. The neglect of these sciences on their part, is a

[* Till a child attains this age his education should be chiefly if not entirely physical and moral. Let him ramble about and thus strengthen his frame; and let him be taught to abhor lying, thieving, tale-bearing, oppression, cruelty, gluttony and every kind of vice. When the weather admits of it, children should be very much in the open air. Laughter, shouting and innocent mirth should never be checked but rather encouraged. They are the grand safety valves for the super-abundant exuberances of the young spirit; yet some parents have the incalculable folly to close these outlets of joy, and interdict as much as possible every expression of vivacity in their children. The young creatures are prohibited from laughing and talking in their presence, obliged to sit stock-still, like so many waxen images, and compelled to smother the glorious, and alas! too brief impulses of childhood in the stagnation of silence.—R. M.]

most lamentable evil. If they had been understood, I am confident that innumerable books for children, which have been highly recommended and esteemed very useful, would never have been published ; books, which instead of being blessings to the community, have, I fear, done incalculable injury. Few things, I think, will be more surprising to future generations than the fact, that those whose business it is, in this enlightened age, to cultivate the human mind, were ignorant of the organ by which the mind acts, and of course were inattentive to the condition of that organ. It will appear strange hereafter, that many, through the medium of books, ventured to dictate the manner in which the mind should be disciplined and tasked ; and when it became disordered, acknowledged its dependence on an organization of which they were ignorant, and expected to have it restored by those who, in all attempts to remedy it, act upon the bodily organization. Should teachers of youth venture thus, like Phaeton, to guide the chariot of the sun, while ignorant of the power they endeavour to superintend, and of the means of controlling its irregular action ?

As reference has just been made to books for children, it seems a fitting opportunity to enlarge a little upon this topic. They are then *excessively abundant*. Some are announced as purposely pre-

pared, “for children from *two* to *three* years old.” Many are for the week-day infant school; some for the “Sabbath infant school;” some to teach children History and Geography;” others to instruct them in Geometry, Theology, and Metaphysics. “The Child’s,” “The Girl’s,” “The Boy’s,” Books have been multiplied on almost all subjects, until they have become nuisances. Where is the proof that they have ever benefited a single child? Do the youth now, of the age of 15, who have used such books most of their lives, who committed to memory innumerable truths, and were taught to reason when at the age of 3 or 4, possess more active and independent minds than their parents possessed at the same age? Does their mental power *now* show the *good* effect of their early and extraordinary culture? Do not the numerous slender, delicate, and pale-faced youths who are seen in our colleges, and in boarding schools for girls, exhibit the *bad* effects of this system? I ask again, where is *any* evidence that books, put into the hands of children before the age of seven or eight, are of any lasting benefit, either to the body or the mind? I have shown that they may do immense injury.

But apart from the injury which such books produce, by too early exciting the mind and feelings of children, many of them are very objectionable,

on account of the nonsense and falsehood which they contain. Some, designed for *children from two to three years of age*, contain such trash as the following : “ Englishmen love roast beef and plum pudding. The Dutchman loves cheese and red herring. The Frenchman loves soup and sallad. The German loves ham and pompernicle,” &c. &c.* Surely children of any age are better without such knowledge than with it. Other “ Books,” “ Lessons,” “ Manuals,” and “ Tales for Infants” and for “ Infant Schools,” contain much that is questionable as to its truth, much that infants had better not know, and much that is far above their comprehension. Some contain garbled accounts from Scripture, of the creation of man, and his apostacy, and other religious truths which no child can understand, or profit by, if he could understand them ; the full account given in the Bible is far better. Other books for infants contain “ Lessons in Geometry, Botany, Astronomy,” &c. &c.†

The method of teaching little children varies in different schools ; but that is everywhere considered the *best*, which forces the infant mind the *fastest*. In some schools, the *memory* is chiefly

* See *Lessons for children, two or three years old.*

† See *Lessons for Infant Sabbath Schools, 1831. Infant School Manual, 1830*, and a vast number of other books for *infants*, with which bookstores abound.

cultivated, and children are taught innumerable facts. Here we see those who are scarcely able to talk, exhibited as wonderful children. They are declared to be deserving of the highest praise, and prophesied about as giving promise of great distinction in future, because they are able to tell us who was the oldest man, and many other equally useful and important facts. They are also able to tell us many truths in Astronomy, Geometry, Chemistry, &c. &c., of which the innocent beings know about as much as do parrots of the jargon they deliver. In other schools, teachers are opposed to such practice ; and say that a child should learn nothing but what he understands ; that the memory should not alone be cultivated ; therefore they teach children that Methuselah was not only the oldest man, and nine hundred and sixty-nine years of age, but that he was the son of Enoch, and the grandfather of Noah, and that a year means 365 days, and a day 24 hours ; and all this they teach, in order, as they say, that a child may *fully understand* what he learns. Other teachers say, that it is very wrong to *compel* a child to learn—very wrong indeed ; and that he should learn no more than he will cheerfully : but though they do not gain their purpose by exciting *fear*, they awaken other passions of the strongest kind in the child, by a system of *rewards* and of *praise*.

Now of all these methods, if there is any preference, it should be given to the first ; for that is the least objectionable which has the least tendency to develope the mind, and awaken the passions prematurely. They must all, however, be wrong, if they call into action an organ which is but partially formed ; for they do not conform to the requirements of the laws of nature, and wait for organs to be developed, before they are tasked.

I beseech parents, therefore, to pause before they attempt to make prodigies of their own children. Though they may not destroy them by the measures they adopt to effect this purpose, yet they will surely enfeeble their bodies, and greatly dispose them to nervous affections. Early mental excitement will serve only to bring forth beautiful, but premature flowers, which are destined soon to wither away, without producing fruit.

Let parents not lament, because their children do not exhibit uncommon powers of mind in early life, or because, compared with some other children, they are deficient in knowledge derived from books. Let them rather rejoice if their children reach the age of six or seven, with well-formed bodies, good health, and no vicious tendencies, though they be at the same time ignorant of every letter of the alphabet. If they are in this condition, it is not to be inferred that their minds are inferior

to those of children who have been constantly instructed. It is a great mistake to suppose that children acquire no knowledge while engaged in voluntary play and amusements.

They thus do acquire knowledge as important as is ever acquired at school, and acquire it with equal rapidity. Many think that the child who has spent the day in constructing his little dam, and his mill, in the brook, or the stream that runs in the gutter; or in rearing his house of clods or of snow, or in making himself a sled or cart, has been but idle, and deserves censure for a waste of his time, and a failure to learn any thing. But this is a great error of judgment; for, while he has thus followed the dictates of nature, both his mind and body have been active, and thereby improved. To him any thing which he sees and hears and feels is new, and nature teaches him to examine the causes of his various sensations, and of the phenomena which he witnesses. For him, the Book of Nature is the *best book*, and if he is permitted to go forth among the wonders of creation, he will gather instruction by the eye, the ear, and by all his senses.

He is for a while just as ignorant that stones are hard, that snow will melt, that ice is cold, that a fall from the tree will hurt him, and a thousand other common facts, as he is of a "parallelogram,"

or "perimeter," or the "diameter of the sun," or the "pericarpium of flowers," or of many other similar things, which some think important for infants to know.* If his time is constantly occupied in learning the last, he will grow up ignorant of many common truths, and fail in the best of all learning, *common sense*.

The child, when left to himself, manifests a true philosophical spirit of inquiry. The story related of the celebrated Schiller, who, when a boy, was found in a tree, during a thunder storm, trying to find where the thunder and the lightning came from, is an instance of the natural tendency of every child to self-education. This tendency it is highly important to encourage, for it involves the cultivation of that spirit of inquiry, "which is far more valuable than limited acquirements in knowledge; a spirit which teaches us to distinguish what is just in itself, from what is merely accredited by illustrious names; to adopt a truth which no one has sanctioned, and to reject an error of which all approve, with the same calmness as if no judgment was opposed to our own."† But this spirit will never be acquired, when the child is taught from his infancy to depend upon

* See Infant School Manual.

† Brown's Philosophy.

others for all he knows, to learn all he does learn as a task, and not from the desire of ascertaining the truth and gratifying his curiosity.

Let not the parent, therefore, regret that his child has passed his early hours out of school; for in all probability the knowledge he has gained while running and exercising in the open air at play, is more valuable than any he would have gained at school. At all events, he has gained what is far, very far more valuable than any mental acquirements which a child may make, viz: a sound body, well-developed organs, senses that have all been perfected by exercise, and stamina which will enable him in future life to study or labour with energy and without injury.

The remarks which I have made relative to the danger of too early exerting and developing the minds of children, are not made without some knowledge of the education of children in various parts of our country.

That children *do* have their mental powers prematurely tasked, is a fact which I know, from personal observation. I have seen a course like the following pursued in many families in various parts of the country, and I know that this course is approved of by many excellent persons. Children of both sexes are required, or induced, to commit to memory many verses, texts of scripture, stories,

&c., before they are three years of age. They commence attending school, for six hours each day, before the age of four, and often before the age of three; where they are instructed during three years in reading, geography, astronomy, history, arithmetic, geometry, chemistry, botany, natural history, &c., &c. They also commit to memory, while at school, many hymns, portions of the Scriptures, catechisms, &c. During the same period, they attend every Sunday a Sabbath school, and there recite long lessons: some are required to attend upon divine service at the church twice each Sunday, and to give some account of the sermon.* In addition to these labours, many children

* [An excellent plan for giving children a disgust at religion. "I was educated," says a friend, "in the house of a clergyman, and so extremely strict was the observance of the Sabbath, so severe the tasks demanded from us all in the shape of attending church three times daily, giving an account of the sermons, learning hymns by heart, to say nothing of long morning and evening prayers, rigid confinement to the house, except when going to and from church, that the Sabbath instead of being welcomed as a day of rest and blessedness was regarded as one of dreadful penance and mortification. Of all days in the week, it was the most unwelcome—listening to sermons, the most monotonous drudgery, and the learning of hymns, the severest of penalties. No better plan for rendering religion odious could be devised, and I fear that some of those who went through this severe purgatorial process in boyhood may trace their present apathy in matters of religion to its abuse."—R. M.]

have numerous books, journals, or magazines to read, which are designed for youth. I have known some required to give strict attention to the chapter read in the family in the morning, and to give an account of it; and have been astonished and *alarmed* at the wonderful power of memory exhibited on such occasions by children when but five or six years of age. I have known other children, in addition to most of the above performances, induced to learn additional hymns, chapters of Scripture, or to read certain books, by the promise of presents from their parents or friends.*

The foregoing account fails to describe the amount of mental labour required of many children in intelligent and respectable families.

The injurious and sometimes fatal effects of such treatment have been already mentioned. But I

* [The detestable practice of bribing children to do any one thing, however good or necessary in itself, cannot be too soon abandoned. It fosters habits of intense selfishness and destroys any kindly and generous feeling in the young mind, and makes the child a base, grasping, avaricious creature. Some parents bribe their children to go to school, to speak the truth, and to take medicine. If a child is properly brought up and has arrived at the period when it can comprehend parental authority, no lure whatever is required to make it do what is right. The word of a parent is with it a law which it will hardly dare to disobey. Whenever children above two years of age are turbulent, disobedient, rude and unmanageable, the fault in almost every case lies with its parents.—R. M.]

cannot forbear again to state that I have myself seen many children who were supposed to possess almost miraculous mental powers, experiencing these effects and sinking under them. Some of them died early, when but six or eight years of age, but manifested, to the last, a maturity of understanding which only increased the agony of a separation. Their minds, like some of the fairest flowers, were "no sooner blown than blasted." Others have grown up to manhood, but with feeble bodies and a disordered nervous system which subjected them to hypochondriasis, dyspepsia, and all the Protean forms of nervous disease. Their minds, in some cases, remained active, but their earthly tenements were frail indeed. Others of the class of early prodigies, and I believe the most numerous portion, exhibit in manhood but small mental powers, and are the mere passive instruments of those who in early life were accounted far their inferiors. Of this fact I am assured, not only by the authority of books, and my own observation, but by the testimony of several celebrated teachers of youth.*

* {There is another cause why *duxes* at school generally turn out *dunces* in after life. A boy will *top* his class if he possess a good verbal memory. This gives good scholarship, and is often possessed by persons of otherwise very ordinary intellect.—R. M.]

The history of the most distinguished men will, I believe, lead us to the conclusion, that early mental culture is not necessary, in order to produce the highest powers of mind. There is scarcely an instance of a great man, one who has accomplished great results, and has obtained the gratitude of mankind, who in early life received an education in reference to the wonderful labours which he afterwards performed. The greatest philosophers, warriors, and poets, those men who have stamped their own characters upon the age in which they lived, or who, as Cousin says, have been the "true representatives of the spirit and ideas of their time," have received no better education, when young, than their associates who were never known beyond their own neighbourhood. In general their education was but small in early life. *Self-education*, in after life, made them great, so far as education had any effect. For their elevation they were indebted to no early *hot-house culture*, but, like the towering oak, they grew up amid the storm and the tempest raging around. Parents, nurses, and early acquaintances, to be sure, relate many anecdotes of the childhood of distinguished men, and they are published and credited. But when the truth is known, it is ascertained that many, like Sir Isaac Newton, who, according to his own statement, was "inattentive

to study, and ranked very low in the school until the age of 12," or, like Napoleon, who is described, by those who knew him intimately when a child, as "having *good health*, and in other respects was like other boys,"* do not owe their greatness to any early mental application or discipline. On the contrary, it often appears, that those who are kept from school by ill health or some other cause in early life, and left to follow their own inclination as respects study, manifest in after life powers of mind which make them the admiration of the world.†

One of the most distinguished men of this coun-

* Memoirs of the Duchess of Abrantes. This lady says, "My uncles have a thousand times assured me that Napoleon in his boyhood had none of that singularity of character attributed to him."

† Shakspeare, Moliere, Gibbon, T. Scott, Niebuhr, W. Scott, Byron, Franklin, Rittenhouse, R. Sherman, Prof. Lee, Gifford, Herder, Davy, Adam Clarke, &c. The last named person was a very unpromising child, and learned but little before he was eight or ten years old. But at this age he was "uncommonly hardy," and possessed bodily strength superior to most children. He was considered a "grevious dunce," and was seldom praised by his father but for his *ability to roll large stones*; an ability, however, which I conceive a parent should be prouder to have his son possess, previous to the age of seven or eight, than that which would enable him to recite all that is contained in all the Manuals, Magazines, and *books for infants* that have ever been published.

try—distinguished alike for great and varied attainments, and for moral worth—favoured me a few years since with the following interesting particulars of his early education :—

“ I was brought up among the highlands, and hilly parts of Connecticut, and was never kept on the *high pressure* plan of instruction. It was not then the fashion. I went to school, and studied in the easy, careless way, until I went to college. I was daily and sometimes for a month or more, engaged in juvenile play, and occasional efforts on the farm. I was roaming over the fields, and fishing, and sailing, and swimming, and riding, and playing ball, so as not to be but *very superficially learned*, when I entered college. I was not in college half the time. I was at home, at leisure, or at gentle work, and much on horseback, but never in the least dissipated. I easily kept pace with my class, for it was in the midst of the American War, and there no scholars, or much stimulus to learn. *Silent leges inter arma.* When I went to study law, I had my own leisure, and great exercise and relaxation in enchanting rides, and home visits, until I got to the bar. I lived plain—drank nothing but water—ate heartily of all plain wholesome food that came in my way—was delighted with rural scenery, and active and healthy as I could be. Here I laid the *basis of a*

sound constitution, in which my brain had not been unduly pressed or excited, and only kept its symmetry with the rest of the animal system. It was not until I was twenty-four, that I found I was very superficially taught, and then *voluntarily took myself to books*, and to learn the classics, and every thing else I could read. The ardour and rapidity with which I pursued my law and literary course, was great and delightful, and my *health and spirits* were sound and uniform, and neither has faltered, down to this day.”*

* CHANCELLOR KENT.—This was written after reading a copy of the first edition of this work in 1833; and was not intended for publication.

SECTION IV.

OPINIONS OF CELEBRATED PHYSICIANS RESPECTING
EARLY MENTAL CULTIVATION.

Of the danger of developing the minds of children to a great degree at a very early age, I have no doubt from my own observation; but I cannot expect to produce a change in public sentiment on this subject by the publication of my own views and opinions, especially in those parts of the country where parents are, generally, strenuous advocates for infant schools and early mental excitement; but I request all who have the care of children, and are desirous of giving them sound minds and sound bodies, to consider attentively the observations of those whose situations in life, great learning, and experience, have eminently qualified them to be high authorities on this subject. Let us then inquire what are the opinions of learned and experienced medical men, as regards the cultivation of the infant mind.

The celebrated Tissot, a learned and practical physician, honoured by sovereigns, and the friend and intimate companion of Zimmerman, and Haller, and the most distinguished men of his time ; published a work on the *Health of Men of Letters*, which has been greatly commended, and in Europe has had great influence. In this work he says, “The effects of study vary much, according to the age of the student. Long continued application, in infancy, destroys life. I have seen young children, of great mental activity, who manifested a passion for learning far above their age ; and I foresaw, with grief, the fate that awaited them. They commenced their career as prodigies, and finished by becoming idiots, or persons of very weak minds. The age of infancy is consecrated by nature to those exercises which fortify and strengthen the body, and not to study, which enfeebles it, and prevents its proper increase and development.” After referring to instances observed by himself and others, of disease and death caused by great mental application in youth, he adds, “I have elsewhere mentioned the injury that peasants do their children, by requiring of them more bodily labour than they ought to perform. But those injudicious parents who require from their children too much labour of the intellect, inflict upon them an injury far greater. No

custom is more improper and cruel than that of some parents, who exact of their children much intellectual labour, and great progress in study, It is the tomb of their talents and of their health." He concludes with this advice. "The employments for which your children are destined in after life, should regulate their studies in youth; not requiring (as is the custom with many parents) the most study in early life, of those who are to be devoted to literary pursuits, but on the contrary, the least." "Of ten infants," says he, "destined for different vocations, I should prefer that the one who is to study through life, should be the least learned at the age of twelve."

Let us ascertain what views are entertained respecting early mental culture, in those countries which have produced the most learned men. It is probably true that no other country has ever produced or now contains so many profound scholars as Germany. In truth, the Germans have so far surpassed the people of other nations, in whatever relates to the cultivation of the intellect, that Madame De Stael very justly styled their country "the Land of Thought." We may therefore derive great advantage in this inquiry from the opinions of the Germans, for the course they have adopted cannot be bad, since we find their scholars and learned men generally healthy, and re-

markable for longevity. Besides, the effect of mental cultivation upon the health, the importance of Physical Education in early life, and the best method of perfecting both the mind and body, have for a long time been subjects of much inquiry, and engaged the attention of the most learned men in that country. Some of their most distinguished medical men have devoted great attention to this subject, and published their views and opinions. From some of their works I will make a few extracts. Upon this subject, perhaps there can be no better authority than that of the distinguished Hufeland, physician to the King of Prussia, who, by his learning, and acquaintance with the greatest scholars of the age, is eminently qualified to decide upon this subject. In his valuable work on the *Art of Prolonging Life*, he observes, "Intellectual effort in the first years of life is very injurious. All labour of the mind which is required of children before their seventh year, is in opposition to the laws of nature, and will prove injurious to the organization, and prevent its proper development." Again, he says, "It is necessary that we should not begin to exercise the faculties of the mind too early; it is a great mistake to suppose that we cannot commence their cultivation too soon; we ought not to think of attempting this while nature is wholly occupied

with the development of organs, and has need of all the vigour of the system to effect this object. If children are made to study before this age, the most noble part of the vital force is withdrawn from perfecting the organization, and is consumed by the act of thought; from which it necessarily results, that the bodily development is arrested or disturbed, digestion is deranged, the humours deteriorated, and scrofula produced. In fine, the nervous system thus acquires a predominance over all others, which it preserves for the remainder of life, producing innumerable nervous complaints, melancholy, hypochondria, &c. It is true, however, that diversity of character requires different methods in this respect. But in all cases the course to be pursued is directly opposed to that which is usually adopted. If a child shows at an early age a great propensity for study, instead of animating and encouraging him to proceed in this course, as most teachers do, it is necessary to moderate his zeal, for *precocity of mind is nearly always disease*, or shows an unnatural propensity, which it is most prudent to correct. A child of more dull intellect, whose thoughts are slow, may, on the contrary, apply to study at an earlier period of life, for in him this exercise is necessary for the proper development of the mental faculties."

Doctor Spurzheim, whose inquiries upon this

subject have been very extensive, and who has for many years devoted himself to the task of ascertaining the influence of the organization upon the mental and moral faculties, thus remarks, in his *View of the Elementary Principles of Education*: “ Many parents anxiously strive to cultivate the intellect of their children, and neglect to fortify their constitution. They believe that children cannot too soon learn to read and write. Their children, therefore, are obliged to remain many hours in school, breathing an impure air, while they ought to be developing the organs of the body by exercise. The more delicate the children are, and the more their affections and minds are precocious, the more important it is that the above error should be avoided; if it is not, premature death is often the consequence of this infraction of the laws of nature. We often see, also, that those much admired in infancy for their genius, waste all their energies in youth, and at a mature age, possess but ordinary minds. Experience demonstrates, that of any number of children, of equal intellectual powers, those that receive no particular care in infancy, and who do not learn to read and write until the constitution begins to be consolidated, but who enjoy the benefit of a good physical education, very soon surpass in their studies those who commence study earlier and read numerous

books, when very young. The mind ought never to be cultivated at the expense of the body; and physical education ought to precede that of the intellect; and then proceed simultaneously with it, without cultivating one faculty to the neglect of others; for health is the base and instruction the ornament of education.”*

* The above is taken from the French edition of this valuable work. A later edition in English, with additions, has been published, which I have not seen. The learned and estimable author of the above, is now in this country, and proposes to lecture upon the interesting science of Phrenology; a science to which he has given a philosophical character, and which, by his labours, he has advanced to its present high standing. I cannot but believe that his visit to this country will be productive of great good, by directing the attention of the public to the immense importance of physical education; a branch of education the almost entire neglect of which, in this country, threatens dangerous and lasting consequences. As to the correctness of the Phrenological system, I am not qualified to determine; but so far as I have had an opportunity of observing, I think it explains the phenomena of the morbid action of the brain far better than any other.

I leave this note as it was in the first edition, though the work referred to has been reprinted in this country. I still hope, that although its illustrious author lived but a few months after his arrival in this country, that his visit will be of great service to it, and that he will ere long be accounted a great benefactor.

In a letter which I received from him but a few days before the illness which terminated his life, he remarks upon the uncommon mental activity of the people of this country, and

That these views respecting early education, have had, and continue to have a practical influence in Germany, I have been assured by those long resident in that country, and by Germans who have been educated there. By a learned and accomplished German lady, now resident in this country, and who in her own, enjoyed the best opportunities for knowing the views of the most intelligent class, I was assured, "There is but one voice in Germany, upon this subject, and that is,—very early learning affords no advantage to the mind, and does essential injury to the body."

Italy has produced many great and distinguished scholars; and the same instructions upon early education have been given by some of her most learned men. Sinabaldi, in his great work on the *Science of Man, or Anthropologie*, thus speaks of education in early life:—"We ought not to fatigue the memory of children by precepts, fables and histories, of which they are not in a state to comprehend either the signification or morality. To force the memory, before that mysterious organ the brain is developed, is the same thing as to fatigue

expresses his belief that the science which he taught would do great good here, and would "contribute to a reform in education." I trust that he has awakened a spirit of inquiry on this subject, that will not subside until the benefits he predicted are realized.

the muscles while imperfect, by long-continued walking or by hard labour, which will produce a general languor, and arrest forever the complete development of the organs of the body. Children at this age ought to be guided wholly by example. In one word, this first epoch of life, from birth to the age of seven, ought to be entirely consecrated to the perfect development of the organization of children, and, by the agency of physical education, to render them as healthy, robust and strong as the nature of man will permit."

In France, the education of youth has engaged the attention of many learned and distinguished men. Numerous treatises upon the subject have been published, urging the importance of physical education. M. Friedlander, in a late work dedicated to M. Guizot, thus speaks of early instruction :—" From the highest antiquity we have this rule, that mental instruction ought not to commence before the seventh year." M. Friedlander thinks this rule is correct, and says that our climate, which necessarily confines children much of the time within doors, has led to the idea of teaching them early, and thus making them prodigies. He gives the following table for the hours of rest and labour, which he says is adopted by many instructors.

| Age. | Hours of sleep.* | Hours of exercise. | Hours of occupation. | Hours of repose. |
|------|------------------|--------------------|----------------------|------------------|
| 7 | 9 to 10 | 10 | 1 | 4 |
| 8 | 9 | 9 | 2 | 4 |
| 9 | 9 | 8 | 3 | 4 |
| 10 | 8 to 9 | 8 | 4 | 4 |
| 11 | 8 | 7 | 5 | 4 |
| 12 | 8 | 6 | 6 | 4 |
| 13 | 8 | 5 | 7 | 4 |
| 14 | 7 | 5 | 8 | 4 |
| 15 | 7 | 4 | 9 | 4 |

[* The quantum of sleep allowed by M. Friedlander, seems to me rather too little for the above ages. If an hour was added, it would approximate nearer to the truth. A child of seven or eight, with a very active brain and a tendency to precocity, should be allowed more sleep—perhaps one or two hours—than a dull child. Seven hours' sleep is certainly too little for growing lads of fourteen—a sufficiency of sleep is as necessary for forming a healthy brain, while that increases in the process of growth, as a sufficiency of food. At the same time we must be cautious not to indulge young people in too much sleep, for in this case the brain becomes irritable and excitable. A great deal depends on constitution, and the portion of sleep which suffices for one person, may be too little for another. Parents often err greatly in this respect. Finding a certain quantum sufficient for themselves they conclude that a similar allowance will suffice for their children. The consequence is that the latter often have their constitutions ruined, and even their intellects impaired. Delicate people of all descriptions, and children in particular, should be allowed a great deal more sleep than the healthy and robust.—R. M.]

M. Ratier, in an essay on the Physical Education of Children, which was crowned by the Royal Society of Bordeaux in 1821, thus speaks of early mental instruction :—“ The labour of the mind, to which some parents subject their children not only too soon, but in a wrong direction, is often the cause of their bad health, and causes nearly all those who are distinguished by precocity of the intellectual faculties, to perish prematurely ; so that we seldom see a *perfect man* ; that is, one who exhibits an equilibrium of the Physical, Mental and Moral faculties.” M. Julian, late editor of the *Revue Encyclopédique*, in his large and valuable work on *Physical, Moral and Intellectual Education*, remarks,—“ All the pages of this work repel the double reproach, of wishing to hasten the progress of the intellect, and obtain premature success, or retard the physical development of children, by neglecting the means necessary to preserve their health. We have constantly followed the principle of Tissot, who wished that infancy might be consecrated to those exercises which fortify the body, rather than to mental application which enfeebles and destroys it.” Again he observes, “ The course to be adopted with children for the first ten years of life, is neither to press or torment them ; but by plays, exercise of the body, entire liberty wisely regulated, and good nourishment, to effect the salutary and progressive de-

velopment of the Physical, Moral and Intellectual faculties, and by continual amusement and freedom from chagrin, (which injures the temper of children) they will arrive at the tenth year without suspecting that they have been made to learn any thing: they have not distinguished between study and recreation; all they know they have learned freely, voluntarily, and always in play. The advantages obtained by this course, are good health, grace, agility, gaiety, and happiness; a character frank and generous, a memory properly exercised, a sound judgment, and a cultivated mind."

In a late work which holds a deservedly high rank in France, entitled Medical Gymnastics, by Charles Londe, similar views are inculcated, and the true Physiological reasons assigned;—that the moral and intellectual man depends upon the physical; that the mental faculties depend upon certain organs, and the exercise of these organs, develops them in accordance to a general law,—that "the more an organ is exercised, the more it is developed, and is able to execute its functions with more facility. Thus habit, education, and other like causes, do not change the moral and intellectual character, without acting on the physical man, or changing the action of organs; repressing some, and increasing others."

Professor Broussais, a man of great learning and

genius, and one of the most distinguished physicians of the present age, thus alludes to this subject. "Intellectual labours give rise, in early life, to effect corresponding with the actual state of the individual constitution. Thus the brain, the growth of which is not complete, acquires, by the exercise of thought, an extraordinary energy and volume; the moral faculties become truly prodigious: but this advantage is sadly counterbalanced by cerebral inflammations, which give rise to hydrocephalus, and by a languor in the rest of the body, the development of which remains imperfect.

"It is easy to conceive what a number of evils must result from a kind of life so little in harmony with the wants of youth; hence we rarely see all those prodigies of premature intellectual education prospering. If encephalitis does not carry them off, they infallibly perish with gastritis or scrofula; most generally, all these evils oppress them at once; and if they do not sink under them in infancy, they carry along with them in mature age, an irritability which does not allow of their resisting the morbid influences, in the midst of which man is necessarily forced to live. They are seen to decay and die, in the prime of life, if they are not destroyed, in spite of all the efforts of the

art, by the first violent inflammation that attacks them.”*

Similar opinions have been inculcated in England, by some of the most distinguished medical men of that country; and particularly by the celebrated Dr. James Johnson, in several of his valuable and interesting works. I ought, however, to remark, that the Treatise of Locke on Education has had, in England, great influence; and undoubtedly has done much injury, by teaching the importance of “reasoning with children at a very early age.” The practice has no doubt been carried much beyond what he intended; and its injurious effects are of late often alluded to. Writers on Mental Alienation, state, that early and frequent attempts to *reason* with children, increase, if they do not create a predisposition to insanity;† and their inutility has been satisfactorily and abundantly shown by several writers, and particularly by Rousseau in his Emile, or Treatise on Education; a work exceedingly defective and absurd in some respects, but abounding with many important and practical truths upon education. The work has had a great and beneficial influence in Europe, but appears to be but little known in this country.

* Treatise on Physiology applied to Pathology.

† Voison, on the Moral and Physical causes of Mental Maladies.

The evil effects of the course recommended by Locke, have been noticed, as I have said, by the medical men in England. A late writer on Dropsy of the head, observes, "the present plan of education, in which the intellectual powers are prematurely exercised, may be considered as one of the causes of the more frequent occurrence of this disease."*

Another writer, in a recent and valuable work, has also alluded to this subject, and in a manner that ought to awaken the attention of parents and teachers. He says, "It is undoubtedly too much the custom of the modern system of education to stimulate the infant intellect to premature, and therefore prejudicial exertion. The recommendations enforced by Struve, should never be forgotten; and if they are forgotten by parents, it is the imperative duty of the medical practitioner to point out the necessity of complying with them. We should operate upon the tender intellect of a child, by the gentlest progression. It must surely be more judicious to complete the instrument previous to its use, than to employ it in an imperfect state. It is the same with children as adults. In the cultivation of the mental powers, we are always to bear in mind the capability of the indivi-

* Medico-Chirurgical Review, 1826.

dual to answer the demands which are made upon him for exertion. It is not only irrational, but it is frequently destructive, to impose either upon the mind or body, but particularly upon the former, a load which it is incapable of supporting. It may be a source of consolation to those parents who are too apt to lament any apparent loss of time in the very early periods of life, that early acquirements are not to be gained without destruction of health, and that the future progress and mental powers of the individual depend upon the foundation which is laid in infancy, by judiciously adapting the studies of the child to its age and constitution. By premature efforts to improve the powers of the intellect, the organ in which they reside is exhausted. The practitioner, then, cannot too forcibly reprobate the pernicious enforcement of precocious studies. The injurious effects arising from the folly and false vanity of parents, who are ambitious of holding forth their children as specimens of extraordinary talent, are constantly presenting themselves to our view, in a train of nervous symptoms, and of susceptibility to ordinary impressions, which frequently pave the way to decided paroxysms of convulsions."**

* Practical Observations on the Convulsions of Infants. By John North.

The same dangerous consequences, resulting from the premature development of the intellect, have often been noticed by medical men in the United States, and one of the most distinguished has thus happily referred to them, in a recent and able work.

"In an early age, before the organism has acquired its proper development, the brain its perfect consolidation, or the organs are confirmed in the order of their existence, premature exercises of the intellectual faculties are the source of many disorders. By the undue excitement of the brain, its organic functions are augmented unnaturally, the organic actions, of the organs of nutrition, secretion, &c. are enfeebled; the muscular system is stunted and debilitated;* the nervous system becomes morbidly irritable; and the brain subject to a variety of affections. Those highly gifted with precocious intellects possess miserable health, and are generally short-lived; they are cut off by chronic inflammations and disorganization of

[* When the body is growing rapidly, there is a great draft of nervous energy made upon the brain to effect the growth. If, therefore, the brain is worked much at this time, a deficient supply of such energy is sent to the frame, and, as a natural consequence, the process of growth is checked.—R. M.]

their viscera, or by acute inflammation of the brain."*†

* *Principles of Medicine, founded on the structure and functions of the Animal Organism.* By Samuel Jackson, M. D.

NOTE.—The inutility of early cultivating the mind, and its evil results, have been noticed by observing men, not belonging to the medical profession. Cobbett, in his *Advice to Young Men*, a work abounding with most excellent remarks upon the *rearing* and education of children, observes, "The mind, as well as the body requires time to come to its strength; and the way to have it possess, at last, its natural strength, is not to attempt to load it too soon; and to favour it in its progress, by giving to the body good and plentiful food, sweet air, and abundant exercise, accompanied with as little discontent or uneasiness as possible. It is the first duty of a parent to secure to his children, if possible, sound and strong bodies."

A distinguished and popular American author has advanced, in a late work of fiction, the following just opinion upon this subject. "Knowledge should only keep pace with the natural growth of the human faculties. When I see a little urchin, who ought to be enjoying nature's holiday, and strengthening his constitution by wholesome exercise to bear the vicissitudes of the world in after times, kidnapped and sent to school, to sit on a bench for four or five hours together, employed in learning by rote what he is unable to comprehend, I cannot help contemplating him as the slave and the victim of the vanity of the parent, and the folly of the teacher. Such a system is only calculated to lay a foundation for disease and decrepitude, to stint the physical and intellectual growth, and to produce a premature old age of the body and mind."—*Paulding. Dutchman's Fireside, Vol. I.*

[† Violent action of the brain destroys life far more frequently than is generally imagined. Becklard, the celebrated French

anatomist, died of brain fever, in consequence of excessive excitement of that organ from over-study. Casimer Perrier, the late principal minister of France, perished from the same disease, brought on by the difficulties and embarrassments of his position, the anxieties of mind into which he was thus thrown. The madness and self-destruction of Chatterton, the premature deaths of Keats, Kirke White and many other highly gifted individuals are all referable to the same cause. Many fine youths perish in consequence of excessive cerebral action during the competition of College prizes. The brain either becomes actually diseased, and thus directly destroys life, or its morbid state of excitement induces disease elsewhere, and death is the speedy result. I lately attended a young lady who laboured under a most dangerous attack of typhus fever which she caught in consequence of over-working the brain in her efforts to carry off a prize.—R. M.]

SECTION V.

INFLUENCE OF MENTAL CULTIVATION AND MENTAL EXCITEMENT, IN PRODUCING INSANITY, NERVOUS AFFECTIONS, AND DISEASES OF THE HEART.

INTELLECTUAL cultivation, and powerful mental excitement, have a very important bearing upon one of the most appalling and deplorable diseases which afflicts humanity; a disease which now prevails to a great extent in this country, and is, I apprehend, increasing with fearful rapidity. The disease I allude to is *insanity*, or disorder of the organ of the mind, which produces a derangement in the manifestation of the mental faculties.

We have no means of determining, correctly, the number of insane persons in the United States; but if there are as many in the other states of the Union as in Connecticut, the whole number cannot be less than *fifty thousand*, or *one in every two hundred and sixty-two* of the population, as is evident from the following facts. In the year 1812,

a committee was appointed to ascertain the number of insane persons in the state of Connecticut. This committee addressed letters to physicians, and other persons in every town in the state, requesting correct information upon this subject. They received answers from *seventy towns*, and, after much deliberation and inquiry, reported, they were "satisfied there were *one thousand* individuals within the bounds of the state, mentally deranged; and that the condition of many of them was truly deplorable." On mentioning this statement, recently, to the distinguished physician of the *Retreat for the Insane*, at Hartford, and my surprise at the great number reported by the Committee, he assured me, it was less than he believed the actual number of insane persons in Connecticut. But if we admit there were 1000 individuals mentally deranged in 1812, or 1 in every 262 of the inhabitants, then there were more than twice as many in this deplorable condition as in any country in Europe, in proportion to the population. The number of the insane in England has increased within the last twenty years; still there are but about 14,000 in that country, one half of whom are idiots.

In Scotland, the proportion of insane to the population, is 1 to 574; and in the Agricultural

districts of England, 1 to 820.* There is, however, more insanity in England than in any other country of Europe.

An inquiry, therefore, into the *causes* of so much insanity in this country becomes very important; and these causes must be sought among the agents that act upon the brain. I have already shown that insanity is a disease of the brain, and that whatever powerfully excites this organ, may so derange its action as to produce derangement of the mind. Sometimes it is occasioned by a *blow* or *fall* upon the head, at other times by inflammation or fever, which produces an unusual determination of blood to the brain. But far oftener this disease is occasioned by *moral causes*, by too violent excitement of the mind, producing morbid action in some parts of the brain.

Thus we find that insanity prevails most in those countries where people enjoy civil and religious freedom, where every person has liberty to engage in the strife for the highest honours and stations in society, and where the road to wealth and distinction of every kind is equally open to all. There is but little insanity in those countries where the government is despotic. The inhabitants of such countries possess but little mental activity com-

* Holiday.

pared with those who live in a republic, or under a representative government. There is but little insanity in China, and travellers state that there is but little in Turkey. The disease is uncommon in Spain and also in Russia, out of the large cities. In France there is much less in the country than in the cities.* Humboldt states that he saw very few cases of mental derangement among the American Savages. In such countries the spirit of inquiry and improvement is seldom awakened, or is soon stifled when it is ; and the inhabitants exhibit but little more mental excitement than the brute creation.

In all countries, the disease prevails more among those whose minds are most excited. Aristotle noticed, in his day, the great prevalence of insanity among statesmen and politicians. It is said, the disease prevails most among those whose minds are excited by hazardous speculations, and by works of imagination and taste ; and but little among those whose minds are exercised only by calm inquiry. The registers of the Bicetre, in France, show, that the insane of the educated classes consist chiefly of priests, painters, sculptors, poets, and musicians ; while no instance of the disease in na-

* Esquirol, Art. Folie. Vol. 16. Dictionnaire des Sciences Medicales.

turalists, physicians, geometricians or chymists has occurred.*

In all ages and countries, insanity has prevailed most in times of great moral and mental commotion. The crusades, and the spirit of chivalry that followed them, the reformation of Luther, the civil and religious discords of Europe, the French Revolution, the American Revolution, greatly multiplied cases of insanity.† So true is it, that moral and mental causes excite this disease, that Esquirol says, he "could give the history of the Revolution, from the taking of the Bastile until the last appearance of Bonaparte, by that of some Lunatics, whose insanity relates to the events which have distinguished this long period."

Not only do the commotions which powerfully affect the minds of people occasion immediate insanity in adults, but they *predispose the next generation to this terrible disease*; and this is a fact that deserves great consideration. Esquirol says that many women, strongly affected by the events of the Revolution, bore children, whom the *slightest cause rendered insane*. He is supported by others in this opinion, *that strong mental emotion of the mother predisposes the offspring to insanity*.

* Conolly.

† Esquirol, Rush, Voison.

Children do not, indeed, often become insane, though they do occasionally, from strong mental excitement, and injudicious development of the moral faculties. Esquirol has seen children rendered insane by jealousy, by fear, and the severity of their parents ; and Pinel has made the same observation. The former relates the case of a child, "endowed with precocious intelligence, with a head uncommonly large," and who became mentally deranged at the age of eleven. He states, also, that he has known many students, animated by a desire to surpass their comrades, to become insane after pursuing severe studies. M. Foville says, he has seen a child of ten years of age, whom the assiduous reading of romances rendered insane. This child at last believed himself one of the heroes of the works he had read, and passed most of his time in striking the walls, trees, &c., which he took to be his enemies.*

But though mental excitement may not often produce insanity during childhood, it may predispose a person to this disease ; and I believe it does, by giving an early predominance to the nervous system. The following facts support this opinion. Van Swieten says, that nearly all insane persons have had convulsions when young ; and I have

* Dictionnaire de Medicine et de Chirurgie Pratiques, Vol. 1.

seen repeated instances in which premature exercise of the mental faculties appeared to be the predisposing cause of convulsions. I now know several boys, with large heads, and who are remarkable for the maturity of their understandings, and the great proficiency they have already made in their studies, whom slight exciting causes throw into convulsions.

In view of these few brief facts respecting *Insanity*, we are forced to believe, that among the causes of the great prevalence of this disease in this country, are the following :—

First, Too constant and too powerful excitement of the mind, which the strife for wealth, office, political distinction, and party success produces in this free country.

Second, The predominance given to the nervous system, by too early cultivating the mind and exciting the feelings of children.

Third, Neglect of Physical education, or the equal and proper development of all the organs of the body.

Fourth, The general and powerful excitement of the female mind. Little attention is given in the education of females, to the physiological differences of the sexes. Teachers seldom reflect, that in them the nervous system naturally predominates ; that they are endowed with quicker sensi-

bility, and far more active imagination, than men; that their emotions are more intense, and their senses alive to more delicate impressions; and they therefore require great attention, lest their exquisite sensibility, which, when properly and naturally developed, constitutes the greatest excellence of women, should either become *excessive* by too strong excitement, or suppressed by misdirected education. If here was the proper place, it would be easy to show that efforts to make females excel in certain qualities of mind which in men is considered most desirable,—to make them as capable as men, of long-continued attention to abstract truths, would be to act contrary to the dictates of nature, as manifested in their organization, and would tend to suppress all those finer sensibilities, which render them, in everything that relates to sentiment and affection, far superior to men.

But in general the mental peculiarities of the female mind are not regarded in education. Their intellectual powers are developed to the greatest degree, and thus their natural sensibility is changed or rendered excessive. This excessive sensibility is not always counteracted by bodily labour and exercise; or there is probably no country where women belonging to the wealthy class, exercise so little, especially in the open air, as in this. But they here participate more, perhaps,

than in any other country, in the excitement of parties and sects, which, in beings whose nervous system is easily excited, is very likely to produce strong emotions ; and, as I have shown, such emotions may have deplorable effects upon their offspring.

It is fearful to contemplate the excited state of mind which everywhere prevails throughout this republic, and the vast amount of *machinery*, if I may so say, which is in operation, to increase and perpetuate such excitement ; and the little attention that has hitherto been given to the dangers it may produce. The following facts in reference to the city of Hartford, are probably applicable to many, if not most of the towns of the same size in the United States. This city contains about 7000 inhabitants. Nearly all, if not all, the children of the city, commence attending school as early as the age of three or four, and attend six hours each day, for several years. Nearly all attend school on the Sabbath, also.* Most families have a li-

* About 1200 children, between the ages of four and sixteen, belonging to the city of Hartford, attend school on the Sabbath, both in the forenoon and afternoon. Most of these children attend church also. Thus they are kept at school and at church at least six hours every Sunday. I regard this confinement of the body and the application of the mind, as too great for young children any day of the week, and when we call to mind

brary and books for children, besides newspapers and other periodicals. There are nine large churches in the city, belonging to six different denominations, exclusive of one for coloured people. These are all well filled twice, and frequently three times, every Sunday. Besides, there are religious

the fact, that most of them, especially the younger portion, attend school the other six days of the week, it appears to me, that every candid and reflecting person must perceive that it is a practice that ought in a great degree to be abandoned.

I know, from my own observation and inquiry in Manchester, and other large towns in England, that Sunday Schools *there* are among the best institutions ever devised. And I have no doubt they are of great service in many towns and sections of this country. I hope, in such places, Sunday Schools will be continued; and that wherever children cannot attend school on other days in the week, that increased efforts will be made to have them instructed on Sunday. But I cannot believe that those children who attend school during the week, and at the church on Sunday, should also *attend School on that day*. I know not of any good reason for it, nor of any evidence that such a course has been serviceable to children.

Much has of late been said, and very justly, I think, of the necessity of resting from accustomed labour one day in seven, in order to preserve health. Why is not such rest necessary for children also? But if Sunday Schools are to be continued, for those children who attend school every other day of the week, I hope that the afternoon session will be discontinued; an alteration which has very wisely and very recently been made by the directors of the Sunday School attached to the largest religious society in the city of Hartford.

meetings on other days, amounting, in the various churches, to twenty or thirty during the week. There are two lyceums, or literary associations, both of which meet once a week, and are open to all, without expense. At one, are weekly debates, usually on some political or historical subject; and at the other is a lecture every week, on such subject as the lecturer pleases. Both of these are well attended. Every week, *seven* large political newspapers, advocating the interests of three different parties, are published in Hartford; and also *five* large religious newspapers; no two of which belong to the same sect. Several other periodicals are published here, but not weekly. In addition to the papers published in this town, men of business take one or more of those published in the larger cities, and most of the Reviews and Magazines of this country, and of England, are received here and read.*

The papers published in Hartford are not circulated at a great distance, but are intended for the population of the town and vicinity; as the

* On inquiry at the post-office, I learn that 80 daily, 110 semi-weekly, and 432 weekly newspapers, published in other places, are taken by the inhabitants of Hartford. Besides more than \$300 are annually received at the same office for postage on papers and pamphlets that are received irregularly.

large villages in every section have papers published in their own town. From this statement, it is evident that the inhabitants of Hartford are supplied with more mental excitement from periodical literature, than many of the largest towns in Europe; yes, even far more than is afforded to the inhabitants of Naples, Madrid, and Moscow.

If, therefore, constant mental excitement is ever or in any country dangerous, it is so now in this country, and cannot fail ultimately to have most disastrous consequences, demanding the attention of the patriot and the philanthropist.

It is a common and just observation, that the permanency of our republican institutions depends upon the intelligence and the virtue of the people; but there may be other causes besides ignorance and vice, slowly and silently operating upon the physical man, which will *as certainly lead to the ruin of the country*. The decline of the Roman empire was marked by the general predominance of a nervous temperament, especially among the Roman ladies.

Cobbett attributes our superiority to the British, in the late war, to the greater strength of our soldiers. This superiority we should be careful to preserve, by the proper physical education of both sexes, when young; and by cultivating every part of man's nature, and not the mind exclusively.

There is another, and I fear a more frequent and fatal disease than that of insanity, caused by mental excitement; and which, judging from my own observation, and the records of cases in modern medical journals, appears to be increasing with frightful rapidity. I allude to organic diseases of the heart. The heart is a vital organ, and its sound state is essential to the possession of good health. When we reflect, therefore, upon the powerful influence which the feelings have upon this organ, the change from its natural action, caused by anger, fear, love, joy, avarice, ambition, envy, revenge, and all those passions and feelings that agitate civilized society, we shall not wonder that the diseases of the heart have increased in modern times. This disease has also increased in all countries during times of great political and moral commotion. Corvisart says, "it was more frequent in the horrible times of the French Revolution than in the usual calm of social life."

Testa, in a late work on diseases of the heart, states the same fact as regards agitated Italy. This author considers the powerful and irregular operation of the passions, as the most frequent cause of organic disease of the heart.* Whoever reflects

* [Strong exertion of the intellect as well as of the passions may affect the heart and bring on irregular action of this organ.

upon these facts, must feel the importance of cultivating a quiet state of mind in order to preserve good health. This is important at all times of life,

A young gentleman whom I knew well, had overworked his brain in prosecuting his professional studies. The consequence was violent and irregular action of the heart, which led his friends and himself to apprehend organic disease of that organ. He was recommended to abstain from mental exertion and to take a voyage. In pursuance of this advice he laid his books aside, went to the Mediterranean, and entirely recovered.

About the age of eighteen a change takes place in the male, analogous to that which occurs at an early period in the female. The consequence is that the nervous system becomes highly excitable, and a variety of curious mental and bodily sensations are the result; and these are invariably aggravated by much exertion of mind. It is very common for young medical students to imagine they labour under aneurism of the aorta or some other form of disease connected with the heart or its great outlet, especially if their teachers touch strongly upon this subject. Such is especially the case with hard-working and assiduous youths, whose over-tasked brains induce palpitation of the heart. Young females from fourteen to seventeen are very liable to similar sensations, especially if their minds are much excited by perusing works of fancy, by incipient sensations of love, or by devoting too much time to parties and other amusements calculated to over-stimulate the nervous system. At those particular periods of life—both in the male and female—the brain should not be much excited, but rather kept in a state of repose. Its natural tendency to excitement is of itself too great, and needs rather to be repressed than augmented by adventitious stimulation. It is very conceivable that disordered action of the heart, occasioned by such means, may induce organic disease of that important organ.—R. M.]

but particularly so during childhood. It should be recollect that the early development of the mental powers of children awakens the passions and appetites earlier than they would be, but for this premature mental cultivation, and therefore excites the heart while it is in a tender and delicate state. "At Hofwyl more than one instance has occurred, in which it was necessary to diminish the amount of a pupil's intellectual efforts, in consequence of the alarming tendency to sensuality which it produced."* But not only does strong mental emotion greatly endanger children, but it is to be feared that the emotions of the mother may predispose her offspring to disease. This is the opinion of Corvisart, Esquirol, and many other very accurate observers. I must therefore repeat what I have elsewhere said, that the powerful and constant excitement of the minds of the females of this country, together with their neglect of proper physical education, threatens dangerous consequences. Whoever notices their general attendance at meetings where strong feelings are awakened, and perpetuated for weeks and months, by very frequent meetings, especially in the night; and witnesses their violent emotions, and knows any thing of the effect of excited mind and agitated feelings

* *Annals of Education, 1833.*

upon a delicate bodily organization, must, on reflection, fear, not only for the injury which such procedure must inflict upon the females themselves, but for that which may be entailed upon the generation to come. I believe these few hints are, at the present time, deserving the serious consideration of all who have influence to perpetuate or allay the excitement alluded to.*

* [This fact seems quite undoubted. If a mother while pregnant is subjected to annoyances which fret and irritate her, the offspring will run a strong risk of inheriting a temper similar to that under which she herself laboured during gestation. Rizzio was murdered in the presence of Queen Mary, then pregnant with James VI. This monarch had a constitutional timidity of temperament, and a great terror of a drawn sword; nor can it be doubted that the state of his mother's mind while she was *enciente* contributed to stamp upon him those peculiarities, which distinguished him in so marked and discreditable a manner from all the rest of the line of Stewart. Pinel mentions that out of ninety-two children born after the blowing up of the arsenal at London in 1793, eight were affected with a species of cretinism, and died before the expiration of the fifth year; thirty-three languished through a miserable existence of from nine to ten months' duration; sixteen died in coming into the world, and two were born with numerous fractures of the larger bones. The latter effect must have been produced by the inordinate and deranged contraction of the uterus.—R. M.]

SECTION VI.

REMARKS UPON MORAL EDUCATION—INFLUENCE OF
EXAMPLE.

THE remarks which I have made respecting the danger of too early cultivating the intellectual faculties, do not fully apply to the development of the moral qualities; though in regard to them some caution is necessary; for danger is to be apprehended from strongly exciting the feelings of children and awakening their passions. In endeavouring to call forth and cultivate those moral qualities which are good, and to suppress the bad, we should constantly keep in mind, that the brain is not only the seat of the intellectual faculties, but is also the agent by which the passions, the affections, and all the moral qualities, are manifested. That this is true, is shown in the same way as I have proved that the brain is the material organ of the mind. Insanity alone furnishes abundant proof. This disease of the brain as often derange

the moral as the intellectual faculties. Some insane persons are remarkable for great irascibility, others for pride, courage, hatred, &c., while others are affectionate, timid, irresolute, and melancholy. Dr. Rush mentions the case of a young lady who was insane for a considerable time, during which she hated her father: after some time she recovered a sound mind in every other respect but this; and at last her complete recovery was marked by a return of her filial attachment. This state of mind undoubtedly arose from deranged action of some portion of the brain, produced, perhaps, by neglecting to develope every part of the brain in a proper manner, or from inattention to the premonitory symptoms of this disease; for insanity is usually preceded by some slight irregularity in the intellectual or moral faculties. "Some of the insane," says Esquirol, "are distinguished from infancy, for excessive pride, anger, melancholy," &c. These tendencies not having been arrested or counteracted by the judicious development of opposite qualities, the action of the brain finally became more irregular, and then what is called insanity was produced. But to the accurate observer, partial insanity existed long before this, though the conduct it occasioned was considered merely singularity, eccentricity, &c. But this singularity, or, as some call it, perversity of disposi-

tion, arises from the predominance of the action of some organ of the brain, and may often be corrected by care and attention.

The great object, therefore, in moral education should be, to call into repeated action those organs that manifest the good qualities, and increase their activity and power. For this purpose, it is necessary to study the characters of children when quite young ; and when certain moral qualities appear to predominate, that are likely to produce bad traits of character, great efforts should be made to develope and call into activity opposite qualities : when a child appears exceedingly selfish, he should be taught and accustomed to practise benevolence. In this manner, it is as certain that the moral qualities which are most desirable may be cultivated and made predominant, as that the memory may be increased by exercise.*

Such effects cannot, however, be produced by *precepts* alone. Children should be induced to *practise* the virtues which it is intended they shall possess, and by *practice* they should be endowed with good propensities and good habits. If parents would but feel that it is as essential to teach a child to practise the virtues that are desirable, as it is to cultivate the mind, and would give as

* Voison.

much attention to the early development and proper exercise of the affections and passions, and take that pains to develope all the natural excellencies of his character they do to accelerate his progress in knowledge, we should soon see a great and pleasing change in the dispositions and conduct of men. But now, in very many families, the greatest praise is not bestowed upon those children that are merely *good*, but upon those whose minds are most active and premature.* In schools, much

* "How many parents do we see, who, after teaching their sons, by example, every thing which is licentious in manners, and lavishing on them the means of similar licentiousness, are rigid only in one point—in the strictness of that intellectual discipline, which may prepare them for the worldly stations to which the parental ambition has been unceasingly looking for them, before the filial ambition was rendered sufficiently intent of itself! To such persons, the mind of the little creature whom they are training to worldly stations for worldly purposes, is an object of interest only as that without which it would be impossible to arrive at the dignities expected. It is a necessary instrument for becoming rich and powerful; and, if he could become powerful, and rich, and envied, without a soul, they would scarcely feel that he was a being less noble than now. In what they term education, they have never once thought, that the *virtues* were to be included as objects; and they would truly feel something very like astonishment, if they were told that the first and most essential part of the process of educating the moral being, whom Heaven had consigned to their charge, was yet to be begun—in the abandonment of their own vices, and the purification of their own heart, by better feelings than

of the praise and censure, reward and punishment, connected with early mental culture is calculated to awaken rivalry, envy and hatred. Moral culture is sacrificed, in early life, to intellectual, and the bad passions are called forth to aid the mind's improvement; and then what originates from a faulty or neglected moral education is considered the fault of nature itself. But nature has not had fair play.

Example is also of great importance in the education of children, in consequence of their natural propensity to imitation. The influence of this strong propensity is not sufficiently attended to by parents and teachers. Dugald Stewart has very ably treated this subject, and shown its great importance in education.* Not only should the pro-

those which had corrupted it,—without which primary self-amendment, the very authority which is implied in the noble office which they were to exercise, might be a source, not of good, but of evil, to him who was *unfortunately* born to be its subject.”—*Brown's Philosophy*, Vol. 2.

* See his Elements of the Philosophy of the Human Mind, Vol. 3. Chapter on the Principle of Law of Sympathetic Imitation. The whole chapter is very deserving of attention. After remarking that this principle has important effects in relation to our moral constitution, he adds, “The reflection which Shakspeare puts into the mouth of Falstaff, with respect to the manners of Justice Shallow and his attendants, and which Sir John expresses with all the precision of a philosophical observer, and all the dignity of a moralist, may be extended to the most

pensity of the youth to imitation be regarded in teaching "accomplishments, and every thing connected with grace," but in forming the moral character also. Every person knows that "the imitation of any *expression* strongly marked by the countenance and gestures of another person, has a tendency to excite, in some degree, the corresponding passion in our own minds;"* and when it is considered how prone children are to imitation, we shall feel the importance of habitually exhibiting, both in looks and actions, only such feelings as we wish them to possess. Parents who are constantly manifesting fretful and unhappy dispositions, will do much towards producing like dispositions in their children. From these observations, those who have the care of educating children, cannot fail to see the importance of the examples they set them; they will also reflect that whatever is inculcated upon children by precept

serious concerns of life. 'It is a wonderful thing to see the semblable coherence of his men's spirits and his; they, by observing of him, do bear themselves like foolish Justices; he, by conversing with them, is turned into a justice-like serving-man. Their spirits are so married in conjunction, with the participation of society, that they flock together in concert, like wild geese. It is certain that *either wise bearing or ignorant carriage is caught, as men take disease*; therefore, let men take heed of their company.'

* Stewart.

is of trifling consequence, compared with that which they learn by example ; and if they wish to have their children possess a spirit of benevolence, kindness or humility, they must cherish and cultivate these virtues in themselves, and be particularly careful not to let any contradiction exist between their expressed opinions of the value of these dispositions and their own habitual conduct.

SECTION VII.

THE CULTIVATION OF THE MIND AT A PROPER TIME OF LIFE, NOT INJURIOUS BUT BENEFICIAL TO HEALTH.

THIS is evident, first from theory. In order to have good health, it is necessary that every organ of the body should not only be well developed, but should also be exercised. We know that if the muscles of the body are not exercised, they not only cease to grow, but that they shrink, and their power, energy, and activity are diminished. This is also the case with the brain, and every other organ of the body. If the functions of the brain are not exercised, the brain diminishes in size. Hence idiots usually have a diminished, *atrophied* brain.* When any organ diminishes for want of proper exercise, the whole system sympathizes, and thus the health becomes impaired. From this view of the subject I cannot doubt but

* Andral's Pathological Anatomy.

that the exercise of the intellect tends to procure and perpetuate sound health.

But this is also proved by facts. Literary men, says M. Brunaud in his *Hygiène des gens des lettres*, have in all countries usually been long-lived. The class of learned men who have lived more than *seventy years*, includes the most distinguished that have ever existed.* Of one hundred and fifty-two *savans*, taken at hazard, one half from the Academy of Belles Lettres, the other from that of Sciences of Paris, it was found that the sum of years lived among them was 10,511, or above *sixty-nine* years to each man. Many of the most learned men now living, are very aged.†

The general increase of knowledge and civilization, has greatly increased good health, and prolonged human life. The discovery of the *king pock*, by Jenner, the invention of the *safety lamp*, by Sir. H. Davy, and other scientific discoveries, undoubtedly save tens of thousands of human lives yearly. The increase of knowledge has also led

* See Table at the end of the volume.

† The declaration of American Independence was signed by 56 delegates—35 from the Northern, and 21 from the Southern States. But *one* survives, and only *two* have died from accident. The whole number of years lived by these delegates, not including the two mentioned, is 3,609 ; or 66 years and 9 months each. Those from the northern states average 70 years and a half, and those from the states at the south, a little less than 60.

men, in modern times, to build hospitals and charitable institutions for the sick, the young, and the aged ; and thus life has been preserved and prolonged. The march of mind has also dispelled numerous superstitions, which formerly destroyed, in one way and another, an immense number of human beings.*

Intellectual cultivation has contributed to the preservation of the lives of men, by giving a predominance to the reasoning powers over the sensual. Thus we find that the inhabitants of the most civilized countries live the longest. Savages are usually more feeble than civilized nations. "Le Pere Fauque, who lived much among them, says he scarcely saw an old man ; Raynal asserts the same of the savages of Canada ; Cooke and La Perouse of those of the north-west coast of America ; Mungo Park of the Negroes ; and Bruce of the Abyssynians."†

In all countries, the mortality has lessened in proportion to the advance of civilization, and is now the greatest in those regions where the in-

* It has been computed, that, in the course of *one century*, 100,000 human beings were put to death for witchcraft in Germany, 30,000 in England, and more in Scotland. This delusion respecting witches, was chiefly dispelled by the increase of science.—See *Scott, and others, on Witchcraft*.

† Foreign Quarterly Review.

habitants approach the nearest to the barbarous state. "At Geneva, good mortuary tables have been preserved since 1560. From these it appears, that, in the seventeenth century, the probability of life was about eleven and a half years; in the eighteenth century it increased to above twenty-seven years. In the space of about three hundred years, the probability of life to a citizen of Geneva, at his birth, has become five times greater. The *mean life*, in one century, was eighteen years; in the next it grew to twenty-three; and finally, during the present century, from 1815 to 1826, it amounts to thirty-six years."* The expectation, or mean term of life of a Roman citizen, from the time of Servius Tullius to Justinian, was *thirty years*; but, according to Mr. Finlaison, the expectation of life for the easy classes of England is 1 in 50, and for the whole mass of the population, 1 in 45.†

* Elements of Medical Statistics, by F. Bisset Hawkins, M.D., London, 1829.

† [This seems to be a mistake. Mr. Finlaison in his evidence lately given before a Select Committee of the House of Commons, states that no inference whatever can be drawn from the Registers of deaths throughout England, so very imperfectly are they kept; and it is evident, from what he mentions, that the rates of mortality is by no means so low as is generally imagined. He is inclined to estimate the mortality in England as 1 in $36\frac{1}{2}$, being the same as that in the town of Ostend,

England is superior in salubrity to any other country in Europe.* The average mortality throughout the whole of England and Wales, has been, of late years, about 1 in 60; but in 1810 it was 1 in 50; in 1800 it was 1 in 47; and in 1780 the ratio of death was 1 in 40.† In London, the annual mortality in the middle of the last century was 1 in 20; it is now 1 in 40. That of Glasgow is 1 in 44.‡§ In the first half of the 18th century,

whose salubrity he considers equal to that of England, on the average.—R. M.]

* [This is not correct. There is good reason to believe that in Scotland the chance of long life is greater. According to an eminent French statist the number of deaths per cent. is less in Scotland and Ireland than in any other European country.—R. M.]

† Pembrokeshire and Anglesey have one death yearly, in 83 individuals—the lowest rate of mortality that has been known in Europe. There is perhaps no section of the United States where the annual mortality is less than this. In several towns on Connecticut River, in the state of Massachusetts, the average annual mortality for the last fifteen years, is 1 in 81. Our large cities are not more healthy than many of the largest in England. The average number of deaths in Philadelphia for the last ten years, is 1 in 38.85, annually; but for the fourteen years previous, the mortality was as low as 1 in 47.86 of the population.—See *Emerson's Medical Statistics, American Journal of the Medical Sciences*, 1831.

‡ Hawkins.

§ [From the extreme inaccuracy of the Mortality Tables not one of these statements can be depended upon. So far from the

the proportion of deaths to births, in London, was as 3 to 2 ; but since 1800, the number of deaths is less than that of births, as 12 to 15. Other countries and cities in Europe have likewise improved in the ratio of mortality. In *France*, in 1780, the deaths annually were 1 in 30 ; but, during the eight years previous to 1824, 1 in 40, or one fourth less. From the census of the population in 1817, it appears that the average annual difference between the deaths and the births for

average mortality in England and Wales being only 1 in 60, the parliamentary return in 1831 make it 1 in 50, and even this gives far too favourable a view, as it is not pretended that their returns exhibit any thing like the whole amount of deaths. The same remark applies to the other statements.—R. M.]

[No reliance can be placed on the report of such prodigious salubrity as is imputed to some places in the above note. "In this country," says Mr. Finlaison, "it is gravely stated even in Parliament, that the rate of mortality is, in some counties, only 1 in 65, or 8 in 520, a manifest impossibility, because if only 1 in 65 die in a year, the mean duration of life in an infant newly born is $64\frac{1}{2}$ years, therefore the extreme of life must be near 130 years of age ! but the general mean duration of life in England does not in fact exceed 36 years."—R. M.]

[Hawkins estimates the mortality of Glasgow too low.. Dr. Cleland, a most able and indefatigable statist, who for many years drew up the Population Tables and Bills of Mortality for that city, in a style of elaboration and accuracy which are quite unrivalled in the kingdom, estimates it at nearly 1 in 40—viz: in 1821 at 39 89-100 ; in 1831 at 39 4-100.—R. M.]

the eight following years, is nearly 200,000 in favour of the latter.*

Much of this decrease of mortality is no doubt owing to the increase of wealth, which has supplied all classes with the necessaries of life better than formerly; but as much, I apprehend, is owing to the increase of knowledge, and to the abandonment of vicious habits,—to the predominance which education has given to the rational over the sensual man.

Notwithstanding the still great prevalence of sensuality in civilized countries, history shows that formerly it was far greater, and more general, and has decreased as civilization has advanced. For proof of this, examine historically the prevalence of almost any sensual and vicious propensity, the indulgence of which tends to shorten life, and it will be found to have been formerly far greater than now. Take the vice of drunkenness, which, as every one knows, has destroyed innumerable human beings; and history will show, that in proportion as men and nations have become enlightened, they have regarded this vice as more odious. Savages are generally prone to intoxication. They

* Discours sur les Ameliorations Progressives de la Sante Publique, par l'influence de la civilisation. Par F. Berard.

regard drunkenness as bliss, and will part with any thing they have for rum.

The ancient Greeks worshipped Bacchus, the god of wine ; and in Silenus we see the image of drunkenness ; and in many of their statues we observe representations of most beastly intoxication. So great, for a while, were the evils from intemperance, in Greece, that some rulers condemned to death those found intoxicated. Lycurgus destroyed all the vines of the country, and made slaves drunk, and exhibited them in this state, in order to deter youth from intemperance. The Romans had more than two hundred different kinds of intoxicating liquors, and drank them to excess. The ancient Germans, and the former inhabitants of all the northern countries were greatly addicted to drunkenness. For centuries, no one thought of the impropriety of drinking to excess : the only concern respecting intoxicating liquors, was how to procure them ; and for this purpose they roamed about like the beasts of the forests, and even invaded Italy to procure them by force.

On the revival of literature, after the dark ages, intemperance in drinking was exceedingly prevalent ; but, as men became more enlightened, they had recourse to measures calculated to prevent it. And it is a curious fact, that in the fifteenth and

sixteenth centuries, *Temperance Societies* were formed by the most intelligent and influential men, for the purpose of stopping intemperance in drinking. One was called the Society of St. Christopher, others were called Temperance Societies, and the members of one took the appropriate name of the *Golden Band*. These societies were productive of great good ; they augmented industry, and contributed to the improvement of manners, and the establishment of good order.

As respects intemperance in England, if we go back but one hundred years, we shall find it far more general than at present. One hundred years ago there was scarcely a store in London where intoxicating liquors were not kept for sale. The physicians of London at that time stated to Parliament, that the victims of intemperance were exceedingly numerous ; and this caused the number of dram-shops to be limited by law. The French were once exceedingly addicted to intoxication ;*

* [This fact sufficiently refutes the absurd idea entertained by many people that the society of the French and the intemperate habits of the British are owing to climate. The climate of France was the same before the age of Louis XIV. as it is at present, and yet how temperate are the inhabitants now compared with what they were at the period in question. Whenever the same refined tastes for elegant amusements prevail—whenever the British people become equally civilized they will become as sober as the French, but not till then.—R. M.]

their rulers enacted many and severe laws to repress the habit; destroying all the vines of the country—imprisonment—whipping—cutting off the ears of those found intoxicated, were successively resorted to, but with little effect towards arresting the evil. The age of Louis XIV, by creating a taste for intellectual and refined pleasures, did more to arrest intemperance in France, than all the laws of former rulers.*

It is to the influence which a taste for intellectual pursuits exerts, that we must look to effect and perpetuate a deliverance from sensuality. It was, in fact, increased intelligence and a growing love for intellectual enjoyment that enabled the people of this country to produce the reformation which they have produced, in the use of intoxicating drink. Temperance Societies, to be sure, did much good; but they were an *effect*, themselves, of the more general diffusion and love of knowledge, and could not have been sustained thirty years ago, nor by a people less intelligent.

* For the evidence of the truth of these statements respecting the history of intemperance, the reader is referred to the accounts of travellers among the Indians, and in Liberia, Africa, &c. To ancient historians, as Diodorus, Cæsar, Tacitus, Pliny, Plutarch, and others. See also article *Intemperance*, *Dictionnaire Des Sciences Medicales*, from which I have selected most of the foregoing facts.

The cultivation of a taste for intellectual amusements, is a matter of national importance, and deserves all encouragement. Madam De Stael has said that when the amusements of a people become not only harmless but useful, they will be in the right way to attain all the perfection of which they are capable ; and we know that on the kind of amusements which young people seek, often depends their future destiny in life. Let, therefore, great attention be given to render the amusements of youth such as will be conducive to mental improvement. They should be seduced, if I may so say, from the haunts of the sensual, by judicious books, pleasing and instructive conversation, well-regulated lyceums, and literary associations ; and made to prefer the acquisition of knowledge to the gratification of their appetites. It is thus that I conceive the cultivation of the mind, at a proper time of life, contributes to produce good health, not only by duly exercising one of the most important organs of the body, but by placing reason and conscience on the throne. Hitherto the conduct of many people, in all countries, has been regulated more by their appetites and passions, than by their deliberate opinions of what was right ; but the cultivation of the mind will give men more power to lessen the influence of their sensual propensities.

But to give this power to men, it is not necessary nor proper to commence with the infant, and task his feeble powers of mind and injure his physical development.

It is, in fact, lamentable to see the labour of a *steam engine*, as regards improvement of the mind, put upon young and delicate children for a number of years; and when they become young men and women, but little or no attention given to their further improvement. It is not uncommon to see those whose early years were almost wholly devoted to study, pass weeks and months, in after life, without attempting to improve their minds by reading or study. They do not attempt *self-education*; that education which is the best of all, and the only education that is generally of much use, and which every person, by the aid of books, can now obtain. The school-master is abroad, and does much good, but our youth should not suppose that they can learn nothing without his aid. To greater effect, at the present time, is the book-publisher abroad, and tenders to all education, amusement, knowledge and power.

The history of the most distinguished men teaches us, that not to early school education, but to *self-education*, in after life, were they indebted for the development of their great powers. It is surprising, considering the number of such in-

stances, that men have not attached more importance to the last, and less to the former than they have. A late writer,* of superior capacity, has thus alluded to this subject in her remarks on the *Genius of Walter Scott*.

In speaking of his early education, she says, "Here is a boy lying about in the fields, when he should have been at his Latin grammar ; reading novels when he should have been entering college ; spearing salmon instead of embellishing a peroration. Yet this personage came out of this wild kind of discipline, graced with the rarest combination of qualifications for enjoying existence, achieving fame, and blessing society. Deeply learned, though neither the languages, nor the philosophy of the schools, made part of his acquisition ; *robust* as a ploughman ; able to walk like a pedlar ; industrious as a handcraftsman ; intrepid as the bravest hero of his own immortal works. Here is enough to put us on inquiring, not whether learning, and even school discipline, be good things ; but whether the knowledge usually thought most essential, the school discipline which is commonly esteemed indispensable, be in fact either the one or the other."

I hope that the view I have taken of mental cul-

* Harriet Martineau.

tivation, while it may tend to suppress an inordinate desire for acquiring knowledge from books and schools, during infancy and childhood, may serve to stimulate all those who have passed their youth, and possess good health, to apply themselves with great vigour to mental labour and improvement. Although they may have had but little early education, yet they should be encouraged to persevere in the acquisition of knowledge, by the reflection, that the men most celebrated in all departments of learning, had but little education in early life. This is strikingly true of the great and useful men of this country, both of the past and present time.

A taste for reading is one of the most desirable that we ever form, and could we believe, with Montesquieu, that "reading is a never-failing remedy for all the ills of life," or with our illustrious Jefferson, that "but for books, life would scarcely be worth having," we should none of us neglect cultivating this taste and urging others to do likewise.*

* Since writing the foregoing, I have read the following remarks upon the same subject, in a sermon by the Rev. Robert Hall, *ON THE ADVANTAGES OF KNOWLEDGE TO THE LOWER CLASSES.*

"The acquisition of knowledge, by multiplying the mental resources, has a tendency to exalt the character, and in some measure to correct and subdue the taste for gross sensuality.

The poor man who can read, and who possesses a taste for reading, can find entertainment at home without being tempted to repair to the public house for that purpose. He does not lie prostrate and afloat on the current of incidents, liable to be carried whithersoever the impulse of appetite may direct. The man who has gained a taste for books, will, in all likelihood, become thoughtful; and when you have given the poor the habit of thinking, you have conferred on them a much greater favour than by the gift of a large sum of money; since you have put them in possession of the *principle* of all legitimate prosperity. I am persuaded that the extreme profligacy, improvidence, and misery, which are so prevalent among the labouring classes in many countries, are chiefly to be ascribed to the want of education."

SECTION VIII.

INFLUENCE OF MENTAL CULTIVATION IN PRODUCING DYSPEPSIA IN LITERARY MEN—IRRITATION OF THE BRAIN THE MOST FREQUENT CAUSE OF THIS DIS- EASE.

THE numerous treatises on dyspepsia, published of late, testify to its general prevalence, and its increase. That many of these treatises have done some good, I have no doubt; that some dyspeptics have been benefited by the directions given in books, is very certain; yet I have not seen any work upon this subject, the writer of which appeared fully aware of what, according to my observation, is the most frequent cause of this disease in literary men, and consequently the proper remedies have not always been recommended. For a great many years, dyspepsia was considered not only to be a disease of the stomach, but to consist in “debility of the stomach;” and bitters, tonics, and stimulants were the medicines prescribed to cure it.

But the disciples of a new school in medicine, who profess to found their opinions upon Pathological appearances, have taught us very different doctrines. They say that this disease is closely allied to inflammation of the digestive organs, and recommend low diet, bleeding, &c. as remedies.

No doubt there are cases in which the tonic and stimulating plan is proper and serviceable ; while there are others in which it would be exceedingly injurious—cases in which a directly opposite method of treatment would be beneficial. As a general rule, I am of opinion that the last practice is the best—that more cases of dyspepsia require low, unirritating diet, than bitters and stimulants.

Both kinds of practice are founded, however, upon what I conceive to be an erroneous opinion respecting the origin and most frequent cause of this disease. Dyspepsia is generally considered a disease of the stomach primarily. But I apprehend that in a majority of cases, especially among students, it is primarily a disease of the brain and nervous system, and is perpetuated by mental excitement.

Among the reasons I have for this opinion, independent of my own experience, are the following.

First. A blow or other injury of the head, or a tumour in the brain, frequently produces sickness,

irritation of the stomach, and all the symptoms of dyspepsia.

Second. Dyspepsia "may be produced by mental affections," says Dr. Parry; and in this opinion he is supported by numerous observers. Who is there that has not felt the influence of bad news, or mental agitation, in destroying the appetite and deranging digestion, and thus producing dyspepsia for a short time?*

Third. Insanity, or disease of the brain, is usually preceded by the symptoms of dyspepsia; and recovery from mental derangement is often marked by a return of these symptoms.

During the paroxysm or continuance of insanity, the brain alone appears affected; but at other times, when the brain is relieved, the stomach is affected. I am aware that Broussais and others say, that in such cases the disorder of the stomach is the primary affection, and is truly chronic inflammation of the stomach; which, after continuing a considerable time, stimulates the brain until madness is produced. But the same able observer says, that

* [I once experienced the truth of this in a very remarkable manner. One day when about to sit down to dinner, with an appetite whetted by five or six hours' exercise, a letter was put into my hands announcing the death of a friend to whom I felt strongly attached. The consequence was an instantaneous loss of appetite which continued for two or three days.—R. M.]

the insanity is preceded by long-continued hypochondriasis, and other nervous affections, which I suppose to arise from disease of the brain, and not of the stomach, as he affirms. He refers to instances of melancholy, from nostalgia, unrequited love, loss of fortune, mortified pride, &c.; but which did not amount to insanity until after long-continued disorder of the stomach. He supposes that in such cases, the violence of the reaction from the disease of the stomach produces insanity; but to me it appears more rational to suppose, that the irritation of the brain, produced by the *moral* cause, not only caused the disorder of the digestive organs, but by its continuaunce, increased the disease of the brain, to such a degree as to cause mental derangement; just as we see a blow on the head produce at first, only slight sickness of the stomach, and vomiting, but followed by violent delirium. From the cases which Broussais has given, it evidently appears that slight irritation of the brain from mental or other causes, gives rise to derangement of the stomach, and produces the ordinary symptoms of dyspepsia.*

Mr. Abernethy refers to cases somewhat similar; but his peculiar and extravagant notion, of the vast influence of the stomach in the animal economy,

* Broussais, De L' Irritation et De La Folie.

causes him to overlook that of other organs. He says, however, "there is no hurt of the head that does not affect the digestive organs;" but adds, "if these are not attended to, people will go into a complete state of hypochondriasis, and therefore I am sure the recovery of the functions of the brain mainly depends upon the digestive organs."* That it is important to attend to the digestive organs, in injuries of the head, or of any other part of the body, I have no doubt; but I cannot believe that it is as important as to attend to the diseased organ itself. No one rule, relating to the cure of disease, is more important, than that which teaches, to let a diseased organ *rest*. If, therefore, the brain is injured by a blow, or becomes irritated by disease, or excited by passion or mental anxiety, it should be permitted to remain in a quiet state. I have already shown in a former part of this work, that a quiet state of mind is essential to recovery from wounds of the head: but this state of mind is equally essential when the brain is in an irritable state, from severe study, or from the violence of passion, and it is a neglect of this, which, as I conceive, causes innumerable nervous complaints and diseases of other organs, with which the brain sympathizes.

* Lectures on Anatomy, Surgery, and Pathology, Vol. 2.

I very much doubt whether *sick-headach* as often arises from disordered stomach, as from irritated brain. I have repeatedly noticed an attack of sick-headach, after indulging in stimulating food and drinks in the evening ; but I have known the headache prevented, by keeping the head *cool* after an evening's debauch.

Dr. James Johnson says that Mr. Weeks of Jamaica, when intoxicated, always went to sleep with his head in cold water, in order to prevent headache ; and it is a common practice in India, and some other places, after drinking what is called a *musquito dose* of brandy, to sleep with the head on a wet pillow, and thus subsequent headache is prevented. I have known this practice resorted to, and with like effect. But if the pain of the head is caused by indigestion, what possible efficacy can there be in keeping the head cool ? I conceive, however, that the increased action of the blood-vessels during sleep, produced by the stimulating food or liquor, determines an unusual quantity of blood to the brain, irritates it, and this irritation of the brain produces the pain of the head, sickness and disorder of the stomach. I have noticed, moreover, that this disease most frequently affects those whose nervous systems are delicate and easily excited ; and I have often known it produced by grief or great mental anx-

iaty ; and it is seldom relieved without rest or long abstinence.

Fourth. Examination of the bodies of those who have died, after long continued dyspeptic symptoms, confirms the opinion I have advanced, that dyspepsia is often a disease of the head, and not of the stomach.* Dr. Abercrombie, *On Organic*

* [The relief which many dyspeptic people obtain by going to watering places, is a sufficient proof that their complaint is often intimately connected with the state of the brain. Oppressed at home with the cares of business, or rendered nervously irritable by dissipation, vapid pleasures or want of occupation, (for this is as pernicious to the brain as too much employment) a state of hypochondria, accompanied by impaired digestion, ensues. In this state, they fly to such places as Bath, Leamington or Cheltenham; place themselves in the hands of some fashionable empiric who very gravely tells them to drink the waters, restrict themselves to a particular diet and take some trifling medicine which he prescribes for them. They do this, coupling it with exercise in the open air, and with the light amusements which generally abound in such quarters. The consequence is that the brain gets into a healthier state of action. If its morbid condition was produced by too much thinking, this is relieved; if by too little, this is obviated also, materials for employing it sufficiently existing in the change of scene and in the prevailing gossip of the place. Restored to comparative health by this change of scene, the patient returns home in raptures at the virtue of the waters, and the wonderful skill of the Doctor under whom he was placed. Professional quackery and humbug are nowhere carried to such excess as in fashionable watering places. There they tell with powerful effect, seeing that they have chiefly to deal with those whose

Diseases of the Brain, says, that "Symptoms which really depend upon disease of the brain, are very apt to be referred to the stomach." After mentioning several cases, in which for a long time the prominent symptoms were those of dyspepsia, and in which no trace of organic disease of the stomach was discovered after death, but tumours, or other disease of the brain, he says, "Many other cases of organic disease of the brain are on record, in which the only morbid appearances were in the head, though some of the most prominent symptoms had been in the stomach. Some of these resembled what has been called sick-headach, others were chiefly distinguished by remarkable disturbances of the digestive functions." Dr. A. adds this important caution:—"In cases of this class we must beware of being misled, in regard to the nature of the complaint, by observing that the symptoms in the stomach are alleviated by attention to regimen, or by treatment directed to the stomach itself. If digestion be impeded, from whatever cause, these uneasy symptoms in the stomach may be alleviated by great attention to diet, but no inference can be drawn from this

minds are previously weakened by hypochondria: there at present they seem to be indispensable for success and will continue so till people get more enlightened.—R. M.]

source, in regard to the cause of the derangement."

This last quotation, I think explains a very common mistake—a mistake which is not only made by dyspeptics themselves, but by writers on this disease. They suppose because *low diet*, &c. relieves the principal symptoms in the stomach, that therefore the disease is confined to that organ; when in fact the disease is in the head, but is manifested only by the stomach, the liver, or some organ with which the brain sympathizes, and the *low diet* gives relief, by lessening the too energetic action of the brain.

Dr. Hastings, of England, has called attention to this subject, in the *Midland Medical and Surgical Register* of 1831. He says, that not unfrequently cases occur, which exhibit symptoms of disordered stomach, accompanied by increased determination of blood to the head, alternate flushings and coldness, irregular spirits, &c.; and he states that in all the cases which terminated fatally, under his care, he found thickening of the membranes of the brain, and marks of chronic inflammation within the head. Dr. H. believes that many of the nervous symptoms of which dyspeptic persons complain are produced by slow alteration of the membranes of the brain, in consequence of chronic inflammation; and recommends leeches, cold ap-

pllications to the head, and issues in the neck, for the relief of such cases. In the *Medico Chirurgical Review* for 1826, is a case, quoted from Dr. Chambers, of a woman treated, at St. George's Hospital, for an affection of the stomach, of which organ she had chiefly complained. After death, no appearance of disease was found in the stomach or bowels, but several tumours, besides other marks of disease, were found in the brain.

M. Bayle has published in the *Revue Medicale*, several cases, exhibiting the connexion between disease of the brain and disorder of the stomach. He endeavours to show that disease of the stomach often produces insanity; but he mentions that many of his patients were remarkable for violent temper, or were melancholy, or exhibited some symptoms of nervous irritation, before they were much unwell; then the stomach became disordered, and finally derangement of the mind ensued. On dissection, the brain and its membranes were found diseased; and here I apprehend was the original seat of the complaint, (produced probably by some moral cause,) which first manifested itself in change of temper, or slight nervous affections; then, as it increased, disordered the stomach by sympathy, and finally produced so much disease of the brain as to cause insanity.

Dr. Burrows relates the case of a lady, who had

been unwell for several years. She referred all her suffering to the stomach, and often said, that when she was dead, *there* would be found the seat of her disorder. She died rather suddenly with fever and delirium, after exposure in a very hot day ; and on examining the body, no trace of disease appeared in the stomach or bowels, but the brain exhibited marks of *long standing disease*.*

Some cases and observations in a late work of M. Barras,† confirm the opinion I have advanced respecting the cause and seat of dyspepsia, though this writer does not believe, with M. Broussais and others, that it is an inflammatory disease, but that it consists in an affection of the nerves of the stomach, or what Dr. Johnson calls *morbid sensibility* of the stomach, bowels, &c. He considers the disease to be a *gastralgie*, and not gastritis. But what causes this *gastralgie*, or *morbid sensibility* of the stomach ? An attentive examination of the cases he has cited, will show that, very probably, the first cause of *morbid action* was a *moral one*. Most of the patients whose cases he relates, were of an irritable, nervous temperament, and previous to any symptoms of disease of the stomach, they

* Burrows on Insanity, p. 236.

† Traite sur les Gastralgies et les Enteralgies, ou Maladies Nerveuses de l'Estomac et des Intestins. Par J. P. T. Barras, M. D.

had "experienced severe domestic affliction," had been "melancholy," or been afflicted by "great mental suffering," or had "studied severely, or been exposed to constant turmoils." When such cases terminated fatally, no marks of disease were found in the stomach; but effusion, or other signs of disease were observed in the brain.

M. Broussais has also given much attention to diseases of the stomach, and refers to cases which were characterized by dyspeptic symptoms, which he thinks arose from inflammation of the stomach, but which appear to me to have been produced by mental agitation.* He says himself, that he has often seen diarrhoea, colic, and other disorders of the digestive organs, caused by grief, fright, and mental suffering. He also says, that cerebral "irritation will produce gastric irritation, and even a certain degree of inflammation of the stomach." Still he asserts, that "most encephalic phlegmasiae are usually induced by gastric irritation." I cannot but believe that this observation is incorrect, and that M. Broussais was led to make it in consequence of certain opinions which he has formed respecting the frequency of gastric inflammation, and its influence in producing sympathetic disease;

* See History of Chronic Phlegmasiae, by F. J. V. Broussais, M. D.

opinions which I think are not fully supported by facts. From the history which he has given, of cases of supposed gastritis, or inflammation of the stomach, we learn that the disorder of the stomach was often preceded by symptoms of disease of the head, such as slight mental aberration, melancholy, epilepsy, convulsions, &c. Some of his patients had studied severely, others had long been hypochondriacal, while others were home-sick; and as his patients were mostly soldiers, many of them conscripts, it is not improbable that they had experienced severe moral suffering. He cites the case of M. Beau, as one of acute gastritis; but states, that the patient, previous to his illness, had manifested *a great passion for study, to which he had often sacrificed the hours destined to repose.* This case terminated fatally, and on dissection, marks of disease were found in the stomach; but he says also, that "he was struck with the density, as well as with the injection of the cerebral substance." Still he refers to this case, as one which "presents a vivid picture of the disorder that inflammation of the stomach may occasion in the functions of the economy." But to me this is a case which exhibits the influence of diseased and over-excited brain, on the system, even according to his own doctrines. He elsewhere says that "every thing which only exercises thought by re-

quiring a lively and constant attention, keeps up in the brain a state of vital erection, by which it is sensibly transformed into a permanent focus of irritation. Such individuals become exceedingly irritable, and easily contract inflammations through the influence of food, drinks, atmospherical vicissitudes, &c." He has also abundantly proved, that "an organ which at first is only affected by sympathy, may become organically diseased by the effect of pain."*

This was the case, I conceive, with M. Beau-Long continued and severe study, especially in the night, during the time that ought to have been devoted to rest, produced an irritated state of the brain, which caused sympathetic disease of the stomach, and subsequent inflammation and disorganization. No doubt the case was aggravated, as M. Broussais supposes, by too stimulating regimen; but I apprehend it was not first induced by irritating the stomach by food or drink, but by irritating the brain by too severe study.

Fifth. The fact that dyspepsia is frequently cured by permitting the over-tasked and tired brain to rest, or by changing the mental labour or excitement, is evidence that it is primarily a dis-

* See his *Examination of Medical Doctrines, and Treatise Physiology applied to Pathology.*

ease of the head, and not of the stomach. How often do physicians fail to afford any relief by medicines, in what are called "*stomach affections*," but which are readily cured by travelling, or relaxation in accustomed studies, and freedom from care and anxiety! How often a change of the mental excitement affords relief. It seems as if certain portions of the brain having been unduly excited, became diseased, and were benefited by strong excitement of other portions of the same organ. How often are *stomach* affections cured by inert medicines, aided by the imagination, confidence, hope, &c.*

What is it but the influence of the mind that gives efficacy to remedies that are secret, which they do not possess when known?† Who now

* [I once cured a lady who fancied herself seriously ill of a stomach complaint by administering three dozen of bread pills. She had laboured under this imaginary ailment for some months, and had consulted some of the first practitioners in England.—R. M.]

† [It is often highly injudicious in medical men to allow their patients to know the composition of the remedies which they prescribe for them. Whenever the imagination has any thing to do with the case, let the patient remain in ignorance as to this point. Quacks show an admirable knowledge of human nature in concealing the composition of their medicines, and hence the influence of Solomon's Balm of Gilead, Morrison's Pills and other panaceas of the same description in soothing the weak nerves of the credulous and the hypochondriac. The

goes to Mr. Halsted for the cure of disease of the stomach, or has recourse to *kneading the bowels* to cure it? but who will deny, that before Mr. H. *unfortunately* published his method of cure, a vast many *nervous* people were relieved and cured by him? By some, the relief which Mr. Halsted afforded, would be considered proof that dyspepsia is certainly a disease of the stomach; but to me, it is evidence that the *stomach complaints* he cures, were affections of the organ of the mind, and which the influence of the imagination, hope, faith, &c., relieved. "There is nothing new under the sun"—or certainly not in Mr. Halsted's method of curing stomach complaints and nervous affections, by *kneading the bowels*. It is but *Mesmerism* revived and revised. In the very able Report, drawn up by M. Bailly, in the name of a Committee of the Faculty of Medicine and of the Academy of Sciences, appointed by the King, to examine into the reality and utility of *animal magnetism*, of which Committee our illustrious Franklin was a member, it is stated:—"But more than in any other way, patients are magnetized by the application of the hands, and by pressure of the

egregious humbugs of homeopathy, metallic tractors and animal magnetism had their virtue such as it is, in amusing the imagination of people of this description.—R. M.]

fingers on the middle and sides of the abdomen,—applications often continued for a long time, sometimes for several hours.” That an immense number were cured of stomach complaints and nervous diseases by this procedure, no one will doubt, who examines the records of *Mesmerism*. But the learned Committee believed these cures were effected by the influence which the mind has upon the body; for they were magnetized in the same way, but experienced nothing more than “soreness of the stomach, in consequence of the great pressure made over it.”

Although the secret of Mr. Halsted, as relates to the cure of dyspepsia, is supposed to be published, yet I would recommend to those who wish to learn the *true* secret of his success, to read the report from which I have taken the above extracts.* The same report alludes to a fact which I conceive has a very important bearing upon the disease we are considering. It says, that “when the attention is arrested for a long time, on some interior organ of the body, it produces heat there, and modifies the state of that organ, so that new sensations are produced.” Of this I have no doubt. I have seldom known a person very at-

* *Du Magnetisme Animal en France, &c., Par Alexandre Beaumond.*

tentive to the sensations that food produced in his stomach, who was not, or did not soon become dyspeptic.

The attention which has been directed to the *state of the stomach*, by several popular works on dyspepsia, has, no doubt, done much to produce morbid action of this organ. It is said that the teachings of Broussais, respecting gastritis, have greatly multiplied affections of the stomach, in Paris; and affections of the heart, real or imaginary, were produced by the lectures of Corvisart on the diseases of this organ.

Sixth. The fact that dyspepsia is a disease chiefly confined to the studious, to those whose minds are much exercised and excited, and to those who, by too early mental education, have had a predominance given to the nervous system, is evidence that the brain is the primary organ affected.* I know it is said that the sedentary

* I might refer to numerous instances of men, gifted in early life with superior mental powers, and who enjoyed for a short time great celebrity, but who were always nervous, melancholy, passionate, or on the verge of insanity. Tasso, at the age of 22, was the author of the finest epic poem of modern times; but he was always melancholy, or else devoured by passion, and died at the age of 51. Pascal also enjoyed premature celebrity as an author, but was always hypochondriacal, ever imagining that he saw a gulf open at his side, and died at the early age of 39. But men of genius are not always distinguished in youth.

habits of students cause this disease; and no doubt exercise is necessary to preserve their health; but it proves beneficial by changing the circulation and determining the blood *from* the head. If they studied less, exercise would not be so necessary. I have not observed that tailors, shoe-makers, &c., are particularly liable to dyspepsia. It often happens that men who commence study late in life, after having been engaged for years in some laborious employment, become in a short time dyspeptic. I conceive that this arises from too severe labour, put too suddenly upon the brain. This organ should be gradually exercised, as indicated at page 109, in order to develope it properly and fit it for severe labour without injury.

It is often said that intoxicating liquors produce this disease; but I have been astonished to see how many drunkards are free from it.

Good living is said to cause dyspepsia; but the most healthy people I have ever known, have been

Roger Ascham has placed among "the best natures for learning, the sad-natured and hard-witted child." The youth of Goldsmith was unpromising; and Gesner was considered a very stupid boy. "The mother of Sheridan, herself a literary female, pronounced early that he was the dullest and most hopeless of her sons. The great Isaac Barrows' father used to say, that if it pleased God to take from him any of his children, he hoped it might be Isaac, as the least promising."—*D'Iseraeli.*

among those who lived well—who eat freely several times a day of the most nutritious food. By some it is said that tobacco, snuff, tea, coffee, butter, and even *bread*, cause this complaint; but whoever will make inquiries on this subject throughout the community, will find that this is seldom true. In fact, dyspepsia prevails, according to my experience, altogether the most among the very temperate and careful—among those who are temperate and careful as regards what they eat and drink, and the labour they put upon the stomach; but exceedingly careless how much labour they put upon that more delicate organ, the brain. Such people often eat nothing but by the advice of the doctor, or some treatise on dyspepsia, or by weight; nor drink any thing that is not certainly harmless; they chew every mouthful until they are confident on mature reflection, that it cannot hurt the stomach. Why then are they dyspeptics? Because, with all their carefulness, they pay no regard to the excitation of the brain. They continue to write two or three sermons or essays in a week, besides reading a volume or two, and magazines, reviews, newspapers, &c, and attending to much other business, calculated to excite the mind.*

* "Perhaps the greatest and most general cause of nervous affections, particularly in men, is the great increase of mental

To me it is not strange, that such persons have nervous and stomachic affections. The constant excitement of the brain sends an excess of blood to the head, and therefore other organs become weakened ; and morbid sensibility is produced, which renders the stomach liable to derangement from very slight causes. “ I tell you honestly what I think (says Mr. Abernethy) is the cause of the complicated maladies of the human race ; it is the gormandizing, and stuffing, and stimulating their organs (the digestive,) to excess, thereby producing nervous disorders and irritations. The state of their minds is another grand cause ; the fidgeting and discontenting yourselves about what cannot be helped ; passions of all kinds—malignant passions, pressing upon the mind, disturb the cerebral action and do much harm.”

This statement should be reversed, I think ; it is the *fidgeting and discontenting* ourselves that makes the gormandizing so dangerous. I do not mean, however, to approve of gormandizing ; and

employment, or business requiring mental rather than bodily exertion, and too often accompanied by that anxiety, with its occasional attendants or sequels, disappointment, which is the produce of the especial ambition, either as to wealth, or honours, or fame, which denotes the present times.”—*Macculloch.*

No author, whose works I have seen, has written so much and so ably upon the tendency which mental excitement has to cause disease of the body, as the distinguished Dr. James Johnson. See his various works.

I know that people in this country, generally, eat more than is necessary ; still I do not believe that good nourishment, and abundance of it, cause many of the diseases that flesh is heir to. Nations that are best supplied with food, are the most healthy, live the longest, and have most vigour of body and mind. Children, especially, should be well nourished. Good diet is an essential part of good education. The method of *rearing* children, which some propose, and which I fear some adopt, of restricting them to very light food, that contains but little nourishment, is very reprehensible. Every farmer knows that such a course would stint and ruin his cattle ; and it will as assuredly have such an effect on children. The way to make children thrive and do well, is to give them plenty of good food, and keep their minds free from anxiety and chagrin.

Insufficient nutriment weakens the mind as well as the body. Many writers place poor diet at the head of the causes that weaken attention, and debilitate all the faculties of the mind. Thus we often see that disease, which wastes the body, enfeebles the mind also, though this is not always the case ; for sometimes the brain does not diminish as the other parts of the body do.*

* We often see persons in *consumption* exhibit clear and powerful intellects; but according to the researches of M.

But to return to the causes of dyspepsia. We do not find this disease prevalent in countries where the people eat most enormously. Travellers in Siberia say that the people there often eat forty pounds of food in one day. Admiral Saritchaff saw a Siberian eat immediately *after breakfast*, twenty-five pounds of boiled rice, with three pounds of butter. But dyspepsia is not a common disease in Siberia. We do not learn from Capt. Parry or Capt. Lyon, that their friends, the Esquimaux, are very nervous and dyspeptic, though they individually eat ten or twelve pounds of solid food in a day, washing it down with a gallon or so of train-oil. Captain Lyon was, to be sure, a little concerned for a delicate young lady Esquimaux, who eat his candles, wick and all ; yet he does not allude to her inability to digest them.

The influence of the mind in producing disease, appears to be but little regarded in practice, though there are few who will not acknowledge that this

Desmoulins, the brain does not decrease in bulk or weight in this and many other chronic diseases.—*Andral's Pathological Anatomy.*

* [The constitutional irritation which exists in consumption may communicate itself to the brain and stimulate that organ so as to enable it to act powerfully, notwithstanding the general wasting of the system. In inanition where no disease exists to stimulate the brain, the mental powers are always impaired.

—R. M.

influence is great. Plutarch says, in one of his Essays, "Should the body sue the *mind* before the court of judicature for damages, it would be found that the mind would prove to have been a ruinous tenant to its landlord." The truth of this, mankind will the more realize as they become more intellectual, unless great care is taken to develop and exercise the organs of the body equally and properly.*

It is true, however, that the regular application of the mind to severe but calm study and inquiry, is not very apt to affect the health unfavourably. The illustrious Kant, who lived and studied, to a great age, says, that intellectual pursuits tend to prolong life."†

* Laennæc says that the depressing passions are highly instrumental in producing consumption. For ten years he had the care of a religious association of females, whose rules were excessively severe ; their diet was not only austere, but their attention was constantly fixed on the most terrible truths of religion ; and they were tried by every kind of contrariety, in order to bring them to a renouncement of their own proper will. "During the ten years I was physician to this association, I witnessed its entire renovation two or three different times, owing to the successive loss by death of all its members, with the exception of a few who went out oftener and had fewer religious duties to perform."

† This distinguished philosopher placed great reliance on the power of human reason, as a remedy for disease. He believed that by the force of reason, alone, man is, to a certain degree,

But studies that strongly excite the feelings, or awaken the passions, are very apt to injure the health ; and it is probably true that the literary men of this country are generally engaged in the strife of parties and sects, and consequently their studies are not always those of calm inquiry. But the excitement of the mind produced by the numerous stirring incidents of the times, tends to increase disease, and especially nervous diseases, among all classes of people.* A violent election increases disorders of the digestive organs ; and a *difficulty in the parish*, a phrase well understood in New-England, often multiplies them.†

able to master his sensations. He says that by the strength of *thought*, he was able to forget the pains of gout, and of other diseases. This mental effort, he says, required great force of the will, and caused the blood to rush to his head, but never failed to afford relief.

* Apoplexy, palsy, and other diseases of the nervous system, have greatly increased in modern times, as the following statement exhibits. During the last four years of the 17th century, from 1696 to 1700, there were 80,586 deaths in London ; and during the four last years of the 18th century, 72,591. But though the deaths during the first four years were most numerous, only 442, were by apoplexy, and 89 by palsy ; while, during the last four years, 912 were by apoplexy, and 363 by palsy. Dr. Graham says it is notorious that stomach complaints have likewise increased.—*Graham on Indigestion*.

† The venerable Dr. Perkins, of West Hartford, stated, a few weeks since, in a public discourse, that he had himself attended one hundred Ecclesiastical Councils to heal difficulties in the churches during the last sixty years.

Finally. If dyspepsia is a disease of the stomach, why is it not more frequently cured by attention to diet than it is? I know that by this method some are relieved, and I also know that those disposed to dyspeptic disease, will not be able to continue their severe studies, if they are not careful as respects diet. For if the vital energy is all directed to the brain, and consumed by the act of thought, the stomach will not be able to digest much food. If, however, they study but little, they can eat more with impunity. I have not, however, known this disease cured by a change of diet alone. I have known many students, and professional gentlemen, who were afflicted with troublesome stomach affections for several years, during which time they frequently believed they had discovered a remedy for their evils. Sometimes they were to be cured by eating *bran bread*; at others, by weighing all the food they eat, or by living on rice, or porridge, or by living without coffee or tea, or by some trifling change in diet, about as important as putting a few grains, more or less, of salt in an egg they eat.*

* "ARGAN. Monsieur, combien est-ce qu'il faut mettre de grains de sel dans un œuf?"

M. DIAFOIRUS. Six, huit, dix, par les nombres pairs, comme dans les mendicaments par les nombres impairs."

Le Malade Imaginaire.

Most of the methods afford some relief for a while, and this is usually in proportion to the confidence with which they are imposed or embraced ; but I do not know of one solitary cure by any of these means *alone*.

The most instances of cure which I recollect, have been in those individuals whose *minds* have been permitted to rest from accustomed labours, or have been directed to new pursuits, or relieved from anxiety and care. Some have travelled far, and have recovered : voyages have restored others. Some have become husbands and forgotten their stomach complaints ; some have succeeded in business and are well ; some are in, or out of office, and thus their minds are freed from long-continued anxiety ; while others remain as they were several years since ; having just discovered, for the twentieth time, some new, and, as they believe, effectual remedy for their indigestion ; but which will assuredly disappoint them, if they do not cease from mental toil, and for a while let the excited brain be quiet.

These views respecting stomach affections so common among the students of this country, will, to many, appear 'strange, perhaps absurd ; but to some, I trust, they will be useful. I feel confident they will be, if they induce those who are worn down by mental labour and anxiety, connected

with long-continued disorder of the digestive organs ; to throw aside their *bitters*, *blue pills*, *mustard seed*, *bran bread*, &c. &c., and seek bodily health and future mental vigour, in judicious exertion of the body, innocent amusements, cheerful company, ordinary diet, and *mental relaxation.**

* [It is a great error to study immediately after eating. In such a case the nervous energy required for the process of digestion instead of being expended upon the stomach, is wasted upon the intellectual organs. The almost inevitable result is dyspepsia ; and it will be found that those who are in the habit of strongly employing the mental faculties shortly after taking food, are more or less subject to this affection.—Indigestion is exceedingly Common in the United States, and arises doubtless from the habit so prevalent in that country of returning to business immediately after dinner.—R. M.]

TABLE,

EXHIBITING THE AGE ATTAINED BY SOME OF THE MOST
DISTINGUISHED LITERARY PERSONS IN ANCIENT AND
MODERN DAYS.

Those marked thus* died through violence or accident.

| <i>Name</i> | <i>Age</i> | <i>Country.</i> |
|-------------------|------------|-----------------|
| Fulton | 50 | United States. |
| *Winckelmann | 50 | Germany. |
| Kiel | 50 | Scotland. |
| Brumoy | 50 | France, |
| Marot | 50 | do. |
| *Condorcet | 50 | do. |
| Pliny the younger | 50 | Italy. |
| Scarron | 51 | France.. |
| Simson | 51 | England. |
| Smollet | 51 | Scotland. |
| Tasso | 51 | Italy. |
| Napoleon | 52 | Corsica. |
| Virgil | 52 | Italy. |
| Shakspeare | 52 | England. |
| Tournefort | 52 | France. |
| La Bruyere | 52 | do. |
| Clairaut | 52 | do. |
| Moliere | 53 | do. |
| Cegnard | 53 | do. |
| Blarke | 54 | England. |
| Descartes | 54 | France. |
| Fourcroy | 54 | do. |
| Quinault | 54 | do. |
| Burlamaqui | 54 | Italy. |

| | | | | | | | |
|------------------|---|---|---|----|---|---|---------------|
| Davila | - | - | - | 55 | - | - | do. |
| Camoens | - | - | - | 55 | - | - | Portugal. |
| Gray | - | - | - | 55 | - | - | England. |
| Tycho Brahe | - | - | - | 55 | - | - | Denmark. |
| *Pliny the elder | - | - | - | 56 | - | - | Italy. |
| Dante | - | - | - | 56 | - | - | do. |
| Schaunat | - | - | - | 56 | - | - | Flanders. |
| Pope | - | - | - | 56 | - | - | England. |
| Helvetius | - | - | - | 56 | - | - | France. |
| Mendelsohn | - | - | - | 57 | - | - | Prussia. |
| Ovid | - | - | - | 57 | - | - | Italy. |
| Horace | - | - | - | 57 | - | - | do. |
| Gibbon | - | - | - | 57 | - | - | England. |
| Spurzheim | - | - | - | 57 | - | - | Germany. |
| Congreve | - | - | - | 57 | - | - | England. |
| Guicciardini | - | - | - | 58 | - | - | Italy. |
| *Baily | - | - | - | 58 | - | - | France. |
| N. Biddle | - | - | - | 58 | - | - | Philadelphia. |
| Ariosto | - | - | - | 59 | - | - | Italy. |
| Kepler | - | - | - | 59 | - | - | Germany. |
| Racine | - | - | - | 59 | - | - | France. |
| Bayle | - | - | - | 59 | - | - | do. |
| Demosthenes | - | - | - | 59 | - | - | Greece. |
| Saussure | - | - | - | 59 | - | - | Switzrlaend. |
| Lavater | - | - | - | 60 | - | - | do. |
| Gesner | - | - | - | 60 | - | - | do. |
| Butler, Joseph | - | - | - | 60 | - | - | England. |
| Homer | - | - | - | 60 | - | - | Greece. |
| Desfontaines | - | - | - | 60 | - | - | France. |
| La Mothe Houdart | - | - | - | 60 | - | - | France. |

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|-----------------|---|---|-----|---|----------------|
| Montaigne | - | - | 60 | - | do. |
| Mosheim | - | - | 61 | - | Germany. |
| Galvani | - | - | 61 | - | Italy. |
| Maupertius | - | - | 61 | - | France. |
| Villaret | : | - | 61 | - | do. |
| Boccaccio | - | - | 61 | - | Italy. |
| Sir. W. Scott | - | - | 61 | - | Scotland. |
| Charron | - | - | 62 | - | France. |
| Freret | - | - | 62 | - | do. |
| Paley | - | - | 62 | - | England. |
| Puffendorf | - | - | 63 | - | Germany. |
| Burton, Robert | - | - | 63 | - | England. |
| Mandeville | - | - | 63 | - | Holland. |
| Nieuwentyt | - | - | 63 | - | do. |
| Fenelon | - | - | 63 | - | France. |
| Aristotle | - | - | 63 | - | Greece. |
| Cuvier | - | - | 63 | - | Germany. |
| Homberg | - | - | 63 | - | Batavia. |
| Boyle | - | - | 64 | - | Ireland. |
| Sir C. Bell | - | - | 64 | - | Scotland. |
| De Thou | - | - | 64 | - | France. |
| La Harpe | - | - | 64 | - | do. |
| Blondel, David | - | - | 64 | - | do. |
| Dwight, Timothy | - | - | 65 | - | United States. |
| Bentivoglio | - | - | 65 | - | Italy. |
| Hume | - | - | 65 | - | England. |
| Sydenham | - | - | 65 | - | do. |
| Tillotson | - | - | 65 | - | do. |
| Quevedo | - | - | 65 | - | Spain. |
| Schlichting | - | - | 65 | - | Poland. |
| | | | 17* | | |

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|-----------------------|---|---|----|---|---|--------------|
| Condillac | - | - | 65 | - | - | France. |
| Bacon | - | - | 65 | - | - | England. |
| Milton | . | - | 66 | - | - | do. |
| Zimmermann | - | - | 66 | - | - | Switzerland. |
| J. J. Rousseau | - | - | 66 | - | - | do. |
| Graswinckel | - | - | 66 | - | - | Holland. |
| Huygens | - | - | 66 | - | - | do. |
| Walther | - | - | 66 | - | - | Germany. |
| Werner | - | - | 66 | - | - | do. |
| Montesquieu | - | - | 66 | - | - | France. |
| B. Constant | - | - | 67 | - | - | Switzerland. |
| Mackintosh, Sir James | | | 67 | - | - | Scotland. |
| Griesbach | - | - | 67 | - | - | Germany. |
| Smith, Adam | - | - | 67 | - | - | Scotland. |
| D'Alembert | - | - | 67 | - | - | France. |
| Burke | - | - | 67 | - | - | Ireland. |
| Hevelius | - | - | 67 | - | - | Germany. |
| Washington | - | - | 67 | - | - | Virginia. |
| Schmeizel | - | - | 68 | - | - | Russia. |
| Fabricius | - | - | 68 | - | - | Germany. |
| Gress | - | - | 68 | - | - | France. |
| Duclos | - | - | 68 | - | - | do. |
| Blondel, Francis | - | - | 68 | - | - | do. |
| Southeey | - | - | 68 | - | - | England. |
| Lessius | - | - | 69 | - | - | Brabant. |
| Erasmus | - | - | 69 | - | - | Holland. |
| Muschenbroeck | - | - | 69 | - | - | do. |
| Baronias | - | - | 69 | - | - | Italy. |
| Paul, Jove | - | - | 69 | - | - | do. |
| Valisnieri | - | - | 69 | - | - | do. |

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|-------------------|---|---|---|----|---|---|--------------|
| Cervantes | - | - | - | 69 | - | - | Spain. |
| Berkeley | - | - | - | 69 | - | - | England. |
| Origen | - | - | - | 69 | - | - | Egypt. |
| Scaliger | - | - | - | 69 | - | - | France. |
| Beaumarchais | - | - | - | 69 | - | - | do. |
| Abbadie | - | - | - | 69 | - | - | do. |
| Pelisson | - | - | - | 69 | - | - | do. |
| *Ramus | - | - | - | 69 | - | - | France. |
| Madame Dacier | - | - | - | 69 | - | - | do. |
| Mascaron | - | - | - | 69 | - | - | do. |
| Dryden | - | - | - | 70 | - | - | England. |
| Clarke, Adam | - | - | - | 70 | - | - | do. |
| Temple | - | - | - | 70 | - | - | do. |
| Selden | - | - | - | 70 | - | - | do. |
| Copernicus | - | - | - | 70 | - | - | Germany. |
| Boerhaave | - | - | - | 70 | - | - | Holland. |
| Leibnitz | - | - | - | 70 | - | - | Germany. |
| Gall | - | - | - | 70 | - | - | do. |
| Tissot | - | - | - | 70 | - | - | Switzerland. |
| Petrarch | - | - | - | 70 | - | - | Italy. |
| Stephens, Henry | - | - | - | 70 | - | - | France. |
| Crebillon | - | - | - | 70 | - | - | do. |
| Nollet | - | - | - | 70 | - | - | do. |
| Rousseau, Jean B. | - | - | - | 70 | - | - | do. |
| Rabelais | - | - | - | 70 | - | - | do. |
| Le Sage | - | - | - | 70 | - | - | do. |
| Nicole | - | - | - | 70 | - | - | do. |
| Lemery | - | - | - | 70 | - | - | do. |
| Jenner | - | - | - | 71 | - | - | England. |
| Dumont | - | - | - | 71 | - | - | France. |

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|---------------|---|---|---|----|---|---|--------------|
| Borelli | - | - | - | 71 | - | - | Italy. |
| Fracastor | - | - | - | 71 | - | - | do. |
| Leti | - | - | - | 71 | - | - | do. |
| Casaubon | - | - | - | 71 | - | - | Switzerland. |
| Linnæus | - | - | - | 71 | - | - | Sweden. |
| Gronovius | - | - | - | 71 | - | - | Holland. |
| Graevius | - | - | - | 71 | - | - | do. |
| Lausberg | - | - | - | 71 | - | - | Flanders. |
| Seneca | - | - | - | 71 | - | - | Spain. |
| Racine | - | - | - | 71 | - | - | France. |
| Diderot | - | - | - | 71 | - | - | do. |
| Dacier | - | - | - | 71 | - | - | do. |
| Gall | - | - | - | 72 | - | - | Germany. |
| Chaucer | - | - | - | 72 | - | - | England. |
| Richardson | - | - | - | 72 | - | - | do. |
| Robertson | - | - | - | 72 | - | - | Scotland. |
| Van Swieten | . | - | - | 72 | - | - | Holland. |
| Burnet | - | - | - | 72 | - | - | Scotland. |
| Sir A. Cooper | - | - | - | 72 | - | - | England. |
| Sannazarius | - | - | - | 72 | - | - | Italy. |
| Bourdaloue | - | - | - | 72 | - | - | France. |
| Barthez | - | - | - | 72 | - | - | do. |
| Malherbe | - | - | - | 72 | - | - | do. |
| Confucius | - | - | - | 73 | - | - | China. |
| Bonnet | - | - | - | 73 | - | - | Switzerland. |
| Camden | - | - | - | 73 | - | - | England. |
| Locke | - | - | - | 73 | - | - | do. |
| Crabbe | - | - | - | 73 | - | - | do. |
| Lopez de Vega | - | - | - | 73 | - | - | Spain. |
| Mezerai | - | - | - | 73 | - | - | France. |

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|--------------|---|----|---|---|--------------|
| La Condamme | - | 73 | - | - | France. |
| Dodart | - | 73 | - | - | do. |
| Pothier | - | 73 | - | - | do. |
| De Sacy | - | 73 | - | - | do. |
| D. Stewart | : | 73 | - | - | Scotland. |
| Jenner | - | 74 | - | - | England. |
| Nelle | - | 74 | - | - | Franconia. |
| Hamilton | - | 74 | - | - | Ireland. |
| Johnson | - | 74 | - | - | England. |
| Barros | - | 74 | - | - | Portugal. |
| Rance | - | 74 | - | - | France. |
| La Fontaine | - | 74 | - | - | do. |
| Destouches | - | 74 | - | - | do. |
| Vauban | - | 74 | - | - | do. |
| Haller | - | 75 | - | - | Switzerland. |
| Stahl | - | 75 | - | - | Germany. |
| Heister | - | 75 | - | - | do. |
| Usher | - | 75 | - | - | Ireland. |
| Sheffield | - | 75 | - | - | England. |
| Scaliger | - | 75 | - | - | Italy. |
| Reaumur | - | 75 | - | - | France. |
| Bouhours | - | 75 | - | - | do. |
| Hufeland | - | 75 | - | - | Prussia. |
| Perrault | - | 75 | - | - | France. |
| Mabillon | - | 75 | - | - | do. |
| Frederic II. | - | 75 | - | - | Prussia. |
| Cardan | - | 75 | - | - | Italy. |
| Sanctorius | - | 75 | - | - | do. |
| Solis | - | 76 | - | - | Spain. |
| St. Augustin | - | 76 | - | - | Barbary. |

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|-------------------|---|---|---|----|---|---|--------------|
| Wolff | - | - | - | 76 | - | - | Silesia. |
| Prideaux | - | - | - | 76 | - | - | England. |
| Mably | - | - | - | 76 | - | - | France. |
| Lagrange | - | - | - | 77 | - | - | Italy. |
| Buchanan | - | - | - | 77 | - | - | Scotland. |
| Home, Sir Everard | - | - | - | 77 | - | - | England. |
| Euler | - | - | - | 77 | - | - | Switzerland. |
| Bembo | - | - | - | 77 | - | - | Italy. |
| Bossuet | - | - | - | 77 | - | - | France. |
| Laplace | - | . | - | 78 | - | - | do. |
| Galileo | - | - | - | 78 | - | - | Italy. |
| Cullen | - | - | - | 78 | - | - | Scotland. |
| Swift | . | - | - | 78 | - | - | Ireland. |
| Roger Bacon | - | - | - | 78 | - | - | England. |
| Flechier | - | - | - | 78 | - | - | France. |
| Mallebranche | - | - | - | 78 | - | - | do. |
| Corneille | - | - | - | 78 | - | - | do. |
| S. Parr | - | - | - | 79 | - | - | England. |
| Galen | - | - | - | 79 | - | - | Anatolia. |
| Spallanzani | - | - | - | 79 | - | - | Italy. |
| Euripides | - | - | - | 79 | - | - | Greece. |
| Kircher | - | - | - | 79 | - | - | Germany. |
| Marmontel | - | - | - | 79 | - | - | France. |
| Massillon | - | - | - | 79 | - | - | do. |
| Menage | - | - | - | 79 | - | - | do. |
| Roscoe | - | - | - | 80 | - | - | England. |
| Kant | - | - | - | 80 | - | - | Germany. |
| Burder, Geo. | - | - | - | 80 | - | - | England. |
| Harvey | - | - | - | 80 | - | - | do. |
| Thucydides | - | - | - | 80 | - | - | Greece. |

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|-----------------|---|---|---|----|---|---|----------------|
| Juvenal | - | - | - | 80 | - | - | Italy. |
| Young | - | - | - | 80 | - | - | England. |
| Rollin | . | - | - | 80 | - | - | France. |
| Vertot | - | - | , | 80 | - | - | do. |
| Plato | - | - | - | 81 | - | - | Greece. |
| Warburton | - | - | - | 81 | - | - | England. |
| Mead | - | - | - | 81 | - | - | do. |
| Buffon | - | - | - | 81 | - | - | France. |
| Pestalozzi | - | - | - | 82 | - | - | Switzerland. |
| Polybius | - | - | - | 82 | - | - | Greece. |
| Huber | - | - | - | 82 | - | - | Geneva. |
| Zenocrates | - | - | - | 82 | - | - | Greece. |
| Duhamel | - | - | - | 82 | - | - | France. |
| Fleury | - | * | - | 82 | - | - | do. |
| Butler, Charles | - | - | - | 83 | - | - | England. |
| Hopkins, Samuel | - | - | - | 83 | - | - | United States. |
| Goethe | - | - | - | 83 | - | - | Germany. |
| Hoffman | - | - | - | 83 | - | - | do. |
| D'Aguesseau | - | - | - | 83 | - | - | France. |
| D'Aubenton | - | - | - | 83 | - | - | do. |
| Mrs. Grant | - | - | - | 84 | - | - | Scotland. |
| Herschell | - | - | - | 84 | - | - | Germany. |
| Bentham | - | - | - | 84 | - | - | England. |
| Gleim | - | - | - | 84 | - | - | Germany. |
| Franklin | - | - | - | 84 | - | - | United States. |
| Metastasio | - | - | - | 84 | - | - | Italy. |
| Raynal | - | - | - | 84 | - | - | France. |
| Anacreon | - | - | - | 85 | - | - | Greece. |
| Newton | - | - | - | 85 | - | - | England. |
| Swedenburg | - | - | - | 85 | - | - | Sweden. |

| | | | | | | | |
|----------------|---|---|---|-----|---|---|----------------|
| Webster | - | - | - | 85 | - | - | Connecticut. |
| C. Hutton | - | - | - | 86 | - | - | England. |
| Halley | - | - | - | 86 | - | - | do. |
| Young | - | - | - | 86 | - | - | do. |
| St. Pierre | - | - | - | 86 | - | - | France. |
| Cassini | - | - | - | 87 | - | - | Italy. |
| Crebillon | - | - | - | 88 | - | - | France. |
| Mad. D'Arblay | - | - | - | 88 | - | - | England. |
| Hill, Rowland | - | - | - | 89 | - | - | do. |
| Sophocles | - | - | - | 90 | - | - | Greece. |
| Saint Evremont | - | - | - | 90 | - | - | France. |
| Hobbes | - | - | - | 91 | - | - | England. |
| Huet | - | - | - | 91 | - | - | France. |
| Wren, Sir C. | - | - | - | 91 | - | - | England. |
| Hutton, Wm. | - | - | - | 92 | - | - | do. |
| S. W. Johnson | - | - | - | 93 | - | - | United States. |
| Wilson, Thomas | - | - | - | 93 | - | - | England. |
| Hans, Sloane | - | - | - | 93 | - | - | Ireland. |
| Ferguson, Adam | - | - | - | 93 | - | - | Scotland. |
| Vida | - | - | - | 96 | - | - | Italy. |
| Isocrates | - | - | - | 98 | - | - | Greece. |
| Simonides | - | - | - | 98 | - | - | Isle of Ceos. |
| *Zeno | - | - | - | 98 | - | - | Cyprus. |
| Saadi | - | - | - | 99 | - | - | Persia. |
| Herodian | - | - | - | 100 | - | - | Greece. |
| Fontenelle | - | - | - | 100 | - | - | France. |
| Gorgias | - | - | - | 107 | - | - | Sicily. |
| Hippocrates | - | - | - | 109 | - | - | Isle of Cos. |

THE END.

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